THE
# RAILWAY GAZETTE

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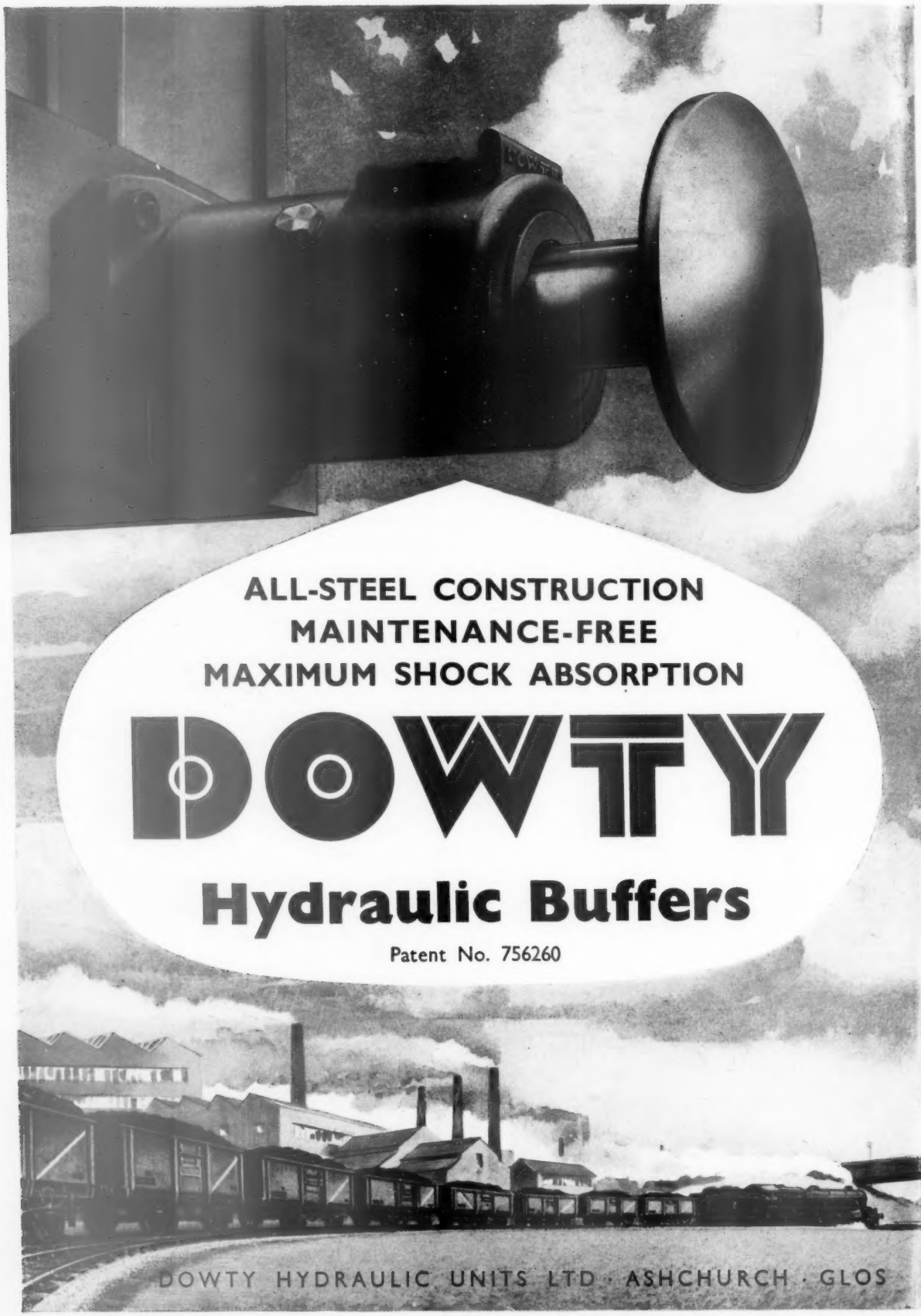
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*An index to the 106th volume of* THE RAILWAY GAZETTE *covering the issues from January 4 to June 28, 1957, has been prepared, and is now available free of charge on application to the publisher.*

## A Blow at Stability

THE decision of the executive of the National Union of Railwaymen last Friday to lodge another "substantial" wage claim is indefensible and any formal claim should be firmly resisted. It is only six months since the award of a 5 per cent rise in wages, and the increase in fares which has been necessary to offset the higher wage and salary costs, did not even come into force until last weekend. As a condition of the previous award, the N.U.R. and the Transport Salaried Staffs' Association promised to give consideration to a request by the British Transport Commission that periodic reviews of wages, salaries, and allied matters should be held to avoid just such demands as that now made. The T.S.S.A. already has asked for a review of salaries—almost certainly some months before the Commission expected to be faced with a request of this kind. Neither the N.U.R. nor the T.S.S.A. has specified any amount of increase, but the N.U.R. is believed to be thinking in terms of at least £1 a week. This would apply not only to members working on British Railways, but also to certain employees of London Transport and in the docks, hotels, and inland waterways activities of the Commission. The N.U.R. is to consult with the Confederation of Shipbuilding & Engineering Unions on a claim for British Railways workshop staff. The Associated Society of Locomotive Engineers & Firemen has not submitted a claim, but it has standing authority from its last conference to do so at any time. It is almost certain to join the fray and put forward a claim of its own. The Commission has to some extent brought its troubles on itself by conferring wage awards in excess of those recommended by the relevant tribunal. The 5 per cent award last March, costing some £14 million a year, was 2 per cent greater than the Railway Staff National Tribunal majority award. The extra 2 per cent was given in good faith in consideration of promises of co-operation by the unions towards efficiency, but in the event it undoubtedly influenced the greater awards recommended shortly afterwards by the courts of inquiry into the shipyard and engineering pay disputes. These awards, it is understood, are now being brought forward by the N.U.R. in support of its own claim. Higher railway pay, by occasioning higher railway charges, must aggravate inflation, which already is seriously menacing the national economy. It is to be hoped that the Commission, with the support of the Government, will resist any claims with all its strength, and not, by making concessions to powerful railway trade unions, initiate a series of wage demands in other industries that can only have the most serious consequences for the country.

## B.T.C. Supplies Organisation

AS long ago as April last the Commission announced its supplies and production organisation was to be revised in the light of the heavy calls being made on it by the railway modernisation programme and that a separate Contracts Branch would be set up. The Chief Contracts Officer has now been appointed; he is Mr. S. C. Robbins, who comes to the B.T.C. from the Ministry of Supply, where he has been an Under Secretary in charge of the Electronics & Guided Weapons Division. A photograph and some biographical details of Mr. Robbins are given elsewhere in this issue. The reorganisation at Commission Headquarters also provides for the widening of some of the responsibilities of the Stores Department and its redesignation as the Supplies Department. Mr. R. B. Hoff has been given the title of Chief Supplies Officer. One of the principal advantages which will flow from the creation of a Contracts Branch should be the lightening of the burden on technical officers, such as the Chief Electrical Engineer. Another extremely desirable objective which should be kept well to the fore in all matters relating to supplies and contracts, is the need to shorten the time between the initiation of a scheme and the actual placing of the contracts; this has particular point in existing conditions when considerable variations in prices may occur over a period of months.

## Competition in Transport

TWO important points in considering the problem of rail and road transport in Britain were made by Mr. J. H. Brebner, Public Relations Adviser to the British Transport Commission, in a letter, from which we quote on another page, to *The Manchester Guardian*, in reply to one from R. Morton Mitchell, Chief Executive Officer, Road Haulage Association. The first is that the nationalised transport undertaking is not a monopoly: the whole of the transport activities of the Commission represent less than one-third of the total transport activity of the country. British Railways and the other State-owned undertakings, therefore, must compete with private enterprise, as they are intended to do by the present Conservative Government, and as they must do successfully if nationalised transport is to pay its way "taking one year with

another " in accordance with its statutory obligation under the Transport Act of 1947. The second point is that the expenditure on improvements to British Railways track, structures, and signalling—as opposed to capital expenditure on rolling stock and other plant—under the modernisation plan is only £14,000,000 a year—a relatively moderate figure, that bears comparison with corresponding expenditure on the roads.

## Diesel-Shunter Equipment

THE progress of conversion from steam to diesel power for shunting on British Railways is shown by the £8 million order placed last week for power equipments for standard 0-6-0 350-h.p. diesel-electric shunting locomotives. Of the 546 equipments ordered, 506 are to be manufactured by the English Electric Co. Ltd., bringing the orders received by this company for these items up to more than 1,000, or 1,200 if orders for similar equipments for overseas use are included. The remaining 40 equipments are being supplied by the General Electric Co. Ltd., and will be similar to 45 which are now in course of manufacture. They consist of a Lister-Blackstone 6-cyl. vertical engine direct-coupled to a main generator with belt-driven auxiliary generator and traction motor blower. The double-reduction gearing for the two motors is on one side of the machines only, an arrangement which combines with a special eccentric mounting of the intermediate gearwheel and pinion to facilitate demeshing when a locomotive has to be towed. The mechanical parts of the 546 locomotives will be built in British Railways own workshops.

## Future of Coal Traffic

IN 1956 coal accounted, with coke and coal-based fuels, for £126,416,000 of the total British Railways freight revenue of £344,574,000. Threats to this traffic have emerged in recent years, one of which is the development of methods of carrying coal through water-filled pipelines. A pipeline more than 100 miles long is already in successful operation in the U.S.A., but there are no major installations in this country as yet. Another development has been the underground gasification of coal on which experiments have been in progress for some years. The logical outcome of this is a " gas-grid " for gas distribution by pipeline when large-scale production is possible. The Central Electricity Authority, to which a great deal of coal is delivered by rail each year for use in power stations, has now associated itself with underground gasification experiments by undertaking the building of a pilot power station at Newman Spinney, Derbyshire, which will operate in conjunction with the gasification plant of the National Coal Board. The station is temporary and must be removed within 10 years, but it is a first step towards obviating railway carriage of coal.

## Revenue from Pipelines

THE future of this traffic by rail is by no means so dark as might appear, however. The new methods of transporting and using coal are in their infancy, and it is likely to remain a basic traffic for British Railways for many years. Its use in pulverised form as a fuel may expand and spread to industries which do not use coal at the present time, except perhaps as coke for heating purposes. There is one way in which the railways could benefit from pipeline traffic—and possibly be responsible for " trunk haulage " in pipelines. As we suggested in our issue of August 26, 1955, British Railways might construct pipelines, or allow them to be constructed, on railway land alongside the track. The railway would give the long, through route needed by the pipeline, the promoters of which would have to contend with one property owner only, and the railways could expect to receive a considerable revenue from rent. This course was advocated also by Mr. A. C. B. Pickford, Chief Commercial Manager, Western Region, in a paper read in October, 1955. In the U.S.A., three major railways are co-operating in coal pipeline construction with the declared intention of remaining as the carrying agencies of coal. The problem of this traffic is one which will become more urgent with the years, but it is not too early to give serious thought to it now.

## East Coast Morning Service to Perth

ONE of the trains introduced in the much-revised winter East Coast route timetable is the " Fair Maid," which leaves Kings Cross at 7.50 a.m. for Perth, calling at Darlington, Newcastle, and Edinburgh en route, and reaching Perth at 4.18 p.m., giving an early morning service to Perth for the first time. In the opposite direction it leaves Perth at 6.40 a.m. and reaches Kings Cross at 3.20 p.m. For the first 232 miles, from Kings Cross to Darlington, this train is booked at an average speed of 60 m.p.h., and last Monday the 310-ton, nine-coach train showed that this speed should be maintained easily despite engineering works and consequent speed restrictions. The new train is one of the 12 which now leave Kings Cross for Scotland every 24 hr., including the " Night Scotsman," which is now an all-sleeper train carrying first class passengers only—the first such train to run on British Railways. The " Fair Maid " is one of the trains on which the Eastern, North Eastern, and Scottish Regions are conducting a passenger survey this week in an attempt to ascertain passengers' requirements of train services, refreshment facilities, and so on, more accurately than has been possible previously, an endeavour that deserves every success.

## Secretarial Service Again in British Expresses

THE dictation and typing service, in a specially equipped compartment, introduced by the London Midland Region last Monday between Euston and Manchester London Road, is the first such facility, we believe, to be offered the British travelling public as a regular feature since that provided by the L.N.W.R. before the war of 1914-18 in the " City to City Express " between Broad Street and Birmingham New Street, though the L.N.E.R. experimented with this facility in the 1930s. The trains leaving Euston at 9.45 a.m. and Manchester at 5.45 p.m. are well patronised by business men, and the schedules of 3 hr. 35 min. down and 3 hr. 40 min. up should afford time for enough work to enable the service, for which a small charge is made, to pay its way. One may ask whether many passengers in the southbound train, probably tired after a day's work, will avail themselves of the service; their counterparts on the Continent certainly seem to make good use of the typing service in trains running at similar times of day. The facility, at all events, seems worth providing as an additional amenity of travel by train.

## There and Back in a Day

FOR many years it has been possible to make an early start from most provincial cities to spend a day in London, but not until recently has the reverse process been possible on an equally extensive scale. Important express trains now leave London at an earlier morning hour than ever previously. They include such valuable postwar additions to the timetable as the 7.55 a.m. " Lancastrian " from Euston to Liverpool and Manchester, the 7.55 a.m. " Palatine " from St. Pancras to Leicester, Derby and Manchester, the 7.50 a.m. " Fair Maid " from Kings Cross to Darlington, Newcastle and Scotland. These, with the wide selection of fast up evening trains, give a business man over 5½ hr. for the transaction of his business in a city as far away from London as Newcastle-on-Tyne, 268·3 miles distant, without having to stay away overnight—a considerable attraction in view of higher hotel charges. No similar facilities have been given to the West of England; the first departure from London for Plymouth, for example, is the 9.30 a.m. from Paddington, which reaches Plymouth little in advance of the 10.30 a.m. " Cornish Riviera." It might have been expected that by now there would be an earlier departure from London to

Birmingham and Wolverhampton than the 9 a.m. concentration—8.50 and 9 a.m. from Euston and 9 and 9.10 a.m. from Paddington—one of which might well be started an hour earlier. These important manufacturing centres also lack any really fast up evening service later than the 5 p.m. "Inter-City" from Birmingham to Paddington.

### Classic Continental Diners

EXAMPLES of classic Victorian-Edwardian carriage construction are still to be seen in the few Swiss Federal Railways wood-bodied restaurant cars in regular service. With clerestory roofs, prominent torpedo extractors, and match-boarded sides from solebar to window level, these 42-ton vehicles are conspicuous in any train formation, particularly when two streams of smoke through the roof at one end give evidence that the kitchen coke-burning stove is "on." Nor do the large brass letters on each side "S.B.B. C.F.F. Wagon-Restaurant Dr[4] 10222" lessen the effect, for these letters and the brass handrails at the four end doors are kept beautifully polished. Below the well-riveted underframe with its substantial queen-post truss are two four-wheel bogies with plain axleboxes and with a comprehensive suspension system, consisting of individual laminated springs with helical auxiliaries above each box, and a swing bolster supported at each side by four full-elliptical laminated springs. Despite all this care, the cars do not ride so well as modern S.B.B. passenger stock mounted on the well-known "Swiss bogies" with cylindrical axlebox guides.

### Seat Reservations

THE increase of British Railways charge for reserving a seat from 1s. to 2s. is a reminder that the 1s. fee was first introduced on July 1, 1905, in the "Cornish Riviera Express" of the Great Western Railway. The success of the arrangement led to its extension to other G.W.R. expresses, but for some years it remained a distinctive feature of that railway. It was suspended during the 1914-18 war, but afterwards resumed by the G.W.R. By the end of 1922, the practice had been adopted to some extent by other railways. After grouping in 1923, all four companies extended seat booking rapidly. With the outbreak of war in 1939, reservation of seats and compartments was discontinued. On the resumption of the reservation facility, on October 7, 1946, the old charge of 1s. was restored, and it is only now that the British Transport Commission has announced the increase of a charge which has survived two wars, and lasted for more than 52 years.

### Train Communication in India

IN India the train communication system follows the practice long now general in the United Kingdom and the Continent and acts on the continuous brake, effecting a gradual application thereof. Two correspondents point out that this gives rise to numerous delays, as there is a great deal of malicious or frivolous operation of the communication, especially on certain routes. On one Indian railway, in a selected 10-day period, trains were pulled up 220 times. The cost of such stops is, of course, appreciable and it has even become necessary to restrict provision of the alarm chain to ladies' compartments. Our correspondents propose, therefore, the adoption of an electrical method of sounding an alarm bell without brake action. Such systems were in use here and elsewhere fairly extensively before the brake actuation type was introduced, but they necessitate not only adequate electrical connection between vehicles but reliable maintenance of batteries, contacts, etc., for their efficient functioning. If that can be guaranteed then they are certainly practicable. It was, however, the absence of anything that could be called special equipment, and above all of any source of electric power, that made the brake actuation system so attractive when introduced in Great Britain, where, fortunately, constant wilful misuse has not to be reckoned with.

## The First Decade of State Ownership

FEW of the fondest hopes and worst fears—depending largely on the political views held—entertained when the Transport Bill of 1947 became law a little over 10 years ago, have been realised. The history of British Railways and the other undertakings—including London Transport, which had been a public corporation since 1933—since they became parts of State-owned British Transport under the Act of 1947, is less spectacular than the most idealistic supporters and strongest opponents of nationalisation seem to have expected. Many people regretted, as we did 10 years ago, and still regret, that the Labour Government of the day decided, rashly and hastily and in a spirit of doctrinaire optimism, to place under public ownership the main-line railways, which had long proved themselves under private ownership to be capable, with fair treatment from the Government in power, of serving the country with the utmost efficiency.

Although the British Transport Commission was not to be, under the Act, part of the Civil Service, it was naturally felt—and with some justification, as events have proved—that "civil service" methods of conducting business would supersede the normal methods practised hitherto by railway managements and other industrial undertakings. The organisation of the Commission and the several Executives seemed cumbersome. These are only a few of the misgivings of critics of the 1947 Act. Its supporters were buoyed up by what may well seem today to be absurd hopes for nationalised transport, not least that State ownership would result in a spirit of amity, or at least of compromise, in the industrial sphere, especially on the railways. After 10 years, it is fitting to see how matters have fared. Elsewhere in this issue is published the first of a series of articles tracing the main events in nationalised transport since August 6, 1947. As to British Railways, the conclusion seems to be that if the situation today is no worse than might have been anticipated, with good reason, in 1947, this is largely the result of the devotion, moderation, and good sense of the bulk of railwaymen, and particularly of railway officers.

The Transport Act of 1947 laid down the duty of the Commission to provide "an efficient, adequate, economical and properly integrated system" of transport, which should pay its way, taking one year with another. On the question of paying its way, it can be said quite simply that the Commission exercised a strict financial discipline from the earliest days; that working surpluses on its combined activities have been achieved in every year since Vesting Day; that the deficits on British Railways have been small compared with turnover; and that, by and large, the efforts of the Commission to achieve satisfactory results have been dogged by frequent increases in its outgoings, including higher wages, without freedom, until recently, to increase its charges to keep pace. In addition, however, there has been the growing threat, to the railways, of private road haulage; and it is very doubtful whether anything less than the radical measures envisaged in the modernisation plan for improving the service given by the railways, could avert a situation far more serious than the working deficit of £16·5 million (on gross receipts of £480 million) incurred by British Railways in 1956, and the Commission accumulated deficit of £127 million at the end of last year.

How far the quality of the freight and passenger service now provided by British Railways is in accordance with the expectations of 10 years ago, is problematical. In 1947, postwar rehabilitation of the railways had hardly begun: much less was known about diesel traction and electrification at industrial frequency; and the menace of road competition was less obvious—though apparent to many far-sighted railway officers. Nevertheless the present extensive adoption of diesel traction, and electrification at 50 cycles would certainly have taken place had the railways remained in the hands of private enterprise: indeed, it is known that at least one company had already made extensive plans for main-line diesel traction at the time of nationalisation. It is easy to be wise after

the event, but we do not feel that the ultra-cautious motive power policy, with continued production of steam locomotives, pursued between 1948 and the launching of the modernisation plan in 1955, would have been followed under company ownership of the railways, though it must be remembered that funds for large-scale acquisition of such items as diesel locomotives were not available to the Commission until the modernisation plan was approved. There is no reason to suppose, however, that these and other technical developments would not have been effected by company railway managements.

What is quite apparent is that nationalisation has not had happy results as regards organisation of the railways. Even although, faced with the task of welding the four nationalised railways into one whole, a functional form of organisation may have been necessary in the earlier days of nationalisation—though the functional element was too strong, even from the start—the rapid and bewildering changes in organisation since 1947 have been enough to make many officers' tasks almost impossible. It says much for those concerned that they have been able to perform their duties as well as they have, despite constant changes. Besides the upheavals caused by nationalisation itself, there have been the relinquishment of functional organisation (disturbing, however necessary), the changes brought about by the Act of 1953, and, more recently, the alterations in commercial and operating responsibilities in several Regions—and many others. To be static is to stagnate, but the former railway companies, which date back over a century, had evolved, over a long period, systems of management to suit their needs without the relatively violent and frequent organisational changes which British Railways have suffered in a decade. As to industrial relations, the story since 1947 is not a happy one, with results which are only too apparent this week.

## B.T.C. Purchasing Procedure

THE report by Sir Harold Howitt on the purchasing procedure of the British Transport Commission, issued as we went to press, lends no support to the allegations of inefficiency and incompetence which have been freely bandied about ever since complaints by Mr. E. L. Gethin, former Supplies & Production Adviser to the Commission, were aired last July in Parliament and the Press. This is not to say that Mr. Gethin's views were necessarily wrong or unsound, and the report testifies to their soundness in some respects, but they were undoubtedly pressed rather too far and perhaps over-simplified in presentation. His point of view is acknowledged in the report to have been helpful and to have had its effect on the procedures of the Commission, but Sir Harold Howitt considers that some of Mr. Gethin's comments failed to allow sufficiently for practical difficulties. Neither officers of the British Transport Commission and British Railways, nor the firms of suppliers, are shown to have acted in a manner deserving of censure.

Although the Commission has not emerged altogether unscathed from this inquiry, the fact that Mr. Gethin was appointed Supplies & Production Adviser in the first place shows that the Commission has had the reform of its purchasing procedures in hand for some time—before the advent of Mr. Gethin—and is in the process of introducing reforms which should leave no ground for complaint. On the four major cases of alleged inefficiency in purchasing referred to Parliament, the report finds that the allegations were not well founded. On four other cases it considers that in general there is no reason to think that the decisions taken by the Commission were, in the circumstances, incorrect. The conclusions of the report have been fully accepted by Mr. Harold Watkinson, Minister of Transport & Civil Aviation.

The contracts on which there seem to be some grounds for criticism are that for vacuum brake cylinders, where the main supplier reduced its prices abruptly, apparently on hearing of lower competitive tenders, and the ordering of a new ship for the Dover-Boulogne car ferry service. In the first case the report suggests that competitive tenders might have been sought in earlier years, and comments that the nature of the discussion in an important meeting of the Supply Committee on April 23, 1956, was "somewhat obscure." Insufficient effort, it comments, was made by the staff concerned—including Mr. Gethin—to explore alternative sources of supply. In the second case, that of the new ship, the order for which was placed without competitive tendering, Sir Harold Howitt sees no reason for this omission and is not satisfied that the financial aspects of the contract were safeguarded as well as they might have been. All through the report can be traced the suggestion that too much purchasing power may have been in the hands of technical officers who had insufficient experience of the commercial aspects of buying supplies and tended to turn to well-tried contractors of known capability.

This tendency is understandable. In matters concerning supplies of materials which can affect the safety of the public it has always, and rightly, been the policy to insist on the very highest standards, and commercial considerations must never be allowed to take precedence over safety. No doubt a desire to avoid long delays—during which prices may well rise—has been responsible for what might be criticised as hasty action under the previous procedure. So long as proper regard is given to the testing of the products of manufacturers new to the railway field, however, there is no reason why, in the vast majority of cases, forms of tender should not be issued on a wider basis. The efficient established firm, with all its experience, should have no fear of competition. Having regard to the demands of the railway modernisation plan on the technical and manufacturing resources of the country, it is clear that design-and-supply contracts, such as those for overhead electrical equipment, must continue to be placed for some time, despite the fact that they inevitably put some suppliers in very strong positions. In the cases considered, the Commission is considered to have done all it could to safeguard its own interests.

In his final recommendations, Sir Harold Howitt suggests that executive officers concerned with supplies, contracts, and production should have a direct channel of responsibility to the Commission, instead of having to report through the General Staff. There is something to be said for this procedure, which might be extended to certain other departments and is analogous to the direct access to the board enjoyed by certain officers of the former railway companies. In purchasing matters, particularly, where delays in the present inflationary conditions may mean increased prices, there would be advantages in cutting out intermediate stages—provided that they are proved unnecessary.

On the whole, the report shows the Commission as doing its best in difficult circumstances, well aware of its own shortcomings and doing its best to eradicate them. There are obviously no scandals to be read into this whole unfortunate affair.

## Scottish Region Winter Timetables

THE most important changes in the Scottish Region train services, introduced with the winter timetable on September 16, are those connected with the East Coast services to and from London. The "Heart of Midlothian" begins its journey at Perth instead of Edinburgh, at 11.25 a.m., and a most interesting feature of its working is that it takes the ex-L.M.S.R. route out of Perth, calling at Stirling, Larbert and Falkirk, before reaching the ex-L.N.E.R. Glasgow-Edinburgh line at Polmont.

The other through working to and from Perth of an East Coast express is that of the former "Morning Talisman," now renamed the "Fair Maid." Leaving Kings Cross at 7.50 instead of 7.45 a.m., this reaches Edinburgh at 2.36 instead of 2.30 p.m., and proceeds at 2.50 p.m. to Dunfermline and Perth, due at 4.18 p.m. It is a pity that

this arrival misses by no more than 18 min. the 4 p.m. to the Highland line; through passengers are thus compelled to wait for 1¼ hr. until 6.5 p.m., whereas an arrival in Inverness by just after 8.30 p.m., in 12¼ hr. from London, might have been made possible by holding the Inverness train until 4.30 p.m. Equally, the departure of the "Heart of Midlothian" from Perth at 11.25 a.m. severs by 30 min. the previous connection (changing at Perth and Edinburgh) with the 8.20 a.m. from Inverness, though London passengers from the latter, of course, have the 12.20 p.m. from Perth to Euston, arriving in London 41 min. after the "Heart of Midlothian." In the southbound direction the "Fair Maid," leaving Perth at 6.40 a.m. for Dunfermline and Edinburgh (8.12 a.m.), starts from Waverley at 8.30 a.m. in place of the 7.30 a.m. of the previous "Morning Talisman," with a London arrival at 3.20 p.m. Most of the trains between Edinburgh and Perth are accelerated several minutes owing to the easing of speed restrictions in the Cowdenbeath mining area.

The revolutionary changes in the night East Coast services have a considerable effect north of Edinburgh. The "Aberdonian," now an all-sleeping car express, from London at 10.15 instead of 7 p.m., and making operating stops at Newcastle and Edinburgh (the latter to change engines and attach breakfast cars), has its first passenger stop at Inverkeithing, and thereafter stops at Burntisland, Kirkcaldy, Cupar, Leuchars, Dundee, Arbroath and Montrose only to set down passengers from London. Aberdeen is reached at 9.20 a.m. instead of 6.55 a.m., an acceleration of 50 min. In the reverse direction departure from Aberdeen is at 8.35 instead of 7.10 p.m. (without restaurant cars), and with the same stops to pick up only (Burntisland excepted) and for operating purposes at Edinburgh and Newcastle, Kings Cross is reached at 7.40 instead of 6.55 a.m., an acceleration in this direction of 40 min.

The intermediate facilities previously offered in England by the 7 p.m. "Aberdonian" from Kings Cross are transferred to a new 7.45 p.m. train, with sleeping cars for Aberdeen and a through portion for Elgin, calling at Grantham, York and Newcastle, and reaching Edinburgh at 3.43 a.m.; this proceeds from Waverley at 3.57 a.m. to Dundee, Arbroath, Montrose, Stonehaven and Aberdeen only, arriving at 7.28 a.m., as compared with the 6.55 a.m. of the previous "Aberdonian." To handle the through Elgin coaches, the 7.45 a.m. G.N.S. train from Aberdeen is divided, at 7.48 a.m. by the direct Orton route to Inverness, and at 8.5 a.m. with the through coaches via Craigellachie and with the buffet car via the coast route to Elgin and Inverness. In the reverse direction an express leaves Aberdeen at 7.5 instead of the previous "Aberdonian" 7.10 p.m. (with restaurant and sleeping cars and the Elgin coaches, brought south by a new train from Elgin at 3.55 p.m.), calling at Montrose, Arbroath, Dundee, Leuchars, Cupar and Kirkcaldy, and reaching Edinburgh at 10.53 instead of 10.43 p.m.; this train arrives at Kings Cross at 7.15 a.m. A third sleeping car train from Kings Cross to Aberdeen is the 10.30 p.m. calling at principal stations in England and Scotland, and involving the prolongation from Dundee of the 6.40 a.m. from Edinburgh; Aberdeen is reached at 10.34 a.m. The other changes in the night service between Kings Cross and Edinburgh will be reviewed in detail when the Eastern and North Eastern winter timetables are dealt with.

Between Edinburgh and Glasgow the corridor diesel trains, with buffet accommodation, have now taken over practically the entire service, save for the few through trains to and from England, such as the "Queen of Scots" and the Glasgow-Kings Cross and Glasgow-Colchester trains. The effect is to offer an extremely ample service between the two cities, at least hourly, on the hour, and with a number of trains at the half-hours also. The fastest train is the "Queen of Scots," in 55 min., but there are a number of trains in 60 min. or less with intermediate stops. Coupled with cheap day return fares, these diesel trains have brought back a large amount of passenger traffic to the railway, and we are glad to note that all the diesel workings are specially indicated as such in the timetable—a valuable piece of publicity that might well be imitated by other Regions. The through Glasgow-Kings Cross train leaves Queen Street at 9.30 instead of 8.32 a.m., the "Queen of Scots" at 11 instead of 10.43 a.m., and the through Colchester train at 9.30 instead of 9.15 p.m., thus conforming to the even-interval pattern. Westbound, the 10.10 a.m. from Kings Cross to Glasgow leaves Edinburgh at 5.50 instead of 6.25 p.m. and the through train from Colchester at 4.50 instead of 6.30 a.m.

Among other changes, the hourly Corstorphine-Edinburgh Waverley-North Berwick hourly service inaugurated in June last is continued for the winter, also the improved service between Glasgow Buchanan Street-Falkirk and stations in Fife. The customary Sunday closing of Glasgow St. Enoch takes place from September 29 until May 11 of next year inclusive, trains for the Glasgow & South Western line being worked from and to Central Station; during the same period the services between Buchanan Street and Perth and beyond are worked from and to Queen Street station because of the closure of Buchanan Street. An alteration of note affecting Sunday services to and from the Highland line is that a through service is now provided from Euston at 7.30 p.m. to Inverness on Saturday nights, and a corresponding service from Inverness to Euston at 5.5 p.m. on Sunday evenings, so, with the "Royal Highlander" on other nights, completing nightly through service throughout each week.

## Service Frequency on Urban Railways

*(By a correspondent)*

IN an article in *The Railway Gazette* of May 24 on urban underground railways, a correspondent sought to show, by calculations made with reference to the Central Line of London Transport, that the use of nine-car trains with three motor coaches, of the Underground pre-1938 stock, would have distinct advantages in peak-hour operation over eight-car trains with four motor coaches. It is not possible to check all the theoretical figures by reference to actual experience, but enough is known about several important practical aspects of the matter to make it more than doubtful whether the advantages claimed for the nine-car train would be realised.

In the first place, the ninth car would not, in practice, relieve loadings throughout a train by the theoretical 12·5 per cent. Because of the location of platform entrances and exits, there is almost invariably unequal loading of passengers throughout a train, with concentration in particular cars, and the longer the train, the less real relief does an extra car provide. This would apply particularly to the suggested nine-car operation on the Central Line, because the doors of the end cars would then be right up against the tunnel headwalls. (This is important in another way also, mentioned later.)

For the same reasons, the assumption that the additional doors provided would result in a reduction of 2·3 sec. in the station stop time is very doubtful. The duration of station stops is dictated primarily by the time taken in loading and unloading the most heavily-crowded car. This would be practically unaffected by the suggested additional end car. Moreover, the calculations allow only a strictly proportionate increase (4·7 sec.) in the time taken for a train to reach the centre of the station berth, assumed to be 450 ft. in length. In practice, the speed would be considerably lowered because of the much greater precision required to stop a nine-car train with the end doors right up to the tunnel headwalls; there would be no margin either way.

In short, the allowance made for loss in performance is considerably less than it would be in practice. Because the additional car would in practice carry fewer passengers than has been assumed, this loss would more than offset the theoretical increase in passenger capacity.

A further practical consideration is that the proposed block of nine-car trains, with their reduced average acceleration and low tractive effort, would make the

maintenance of a regular headway more difficult, since a nine-car train checked to a standstill at an outer home signal would have a very much longer run-in time. (This would, incidentally, be particularly aggravated on the Central Line inner sections, where stations have 1-in-60 approach gradients.) Quite apart from the objections referred to above, this factor alone would be sufficient to cancel out the whole theoretical advantage claimed for the nine-car train.

Means of increasing the effective capacity of the Underground services have been under constant study by the technical and operating staff of London Transport for decades. A special Line Capacity Committee has, in fact, studied the problem since 1937. It is quite certain that the length of the trains is only one of many inter-related factors in determining the effective passenger capacity of the service. The acceleration and braking rate; the station stop time; the speed attainable at any point on the line, coupled with the braking distance at that speed—all these factors have a bearing on the minimum average distance between trains, and therefore on the headway. Reliability of operation is a further important consideration; it is useless providing for a service so exacting that it can only occasionally be achieved in practice.

Developments on the Central Line already contemplated by London Transport are likely in due course to give the maximum realisable passenger capacity coupled with reliability of operation. These developments are twofold. In the first place, all remaining seven-car trains will be increased to eight-car length during the next few years by the addition of an extra motor car of the existing type; subsequently, it is proposed that these motor cars shall be replaced by new cars with the equipment placed beneath the floors, thus making available to passengers the space occupied by the equipment chambers in the existing stock. The first stage, apart from a limited increase in train capacity, will improve the line user by making every train capable of the same performance. The second stage will offer a further increase in effective train capacity of a material order, as well as further enhancing the line capacity by additional improvements in train performance. The increase in the real passenger capacity of the service from both stages together is expected to be some 20 per cent.

# LETTERS TO THE EDITOR

*(The Editor is not responsible for opinions of correspondents)*

## Kings Cross for Scotland

September 10

SIR,—British Railways have made few more welcome announcements than that of improved services to Scotland, as from September 16. When the L.N.E.R. ran the "Silver Jubilee" in 1935, the sequence of East Coast timings was broken; the same thing occurred when the "Coronation" and the "West Riding" high-speed trains started in 1937 and 1938, but the timetable was not refurbished as a whole before the war. That task has now been done with enterprise and intelligence, to give a unique service of 12 expresses in 24 hr. on five days of the week. The new trains cannot have the glamour of the high-speed trains, but it is to be hoped that they will run as smoothly, punctually, and safely.

The picture of a streamlined Pacific, at the top of the advertisement, reminds us that only the skill and originality of Sir Nigel Gresley in locomotive and carriage design have made the performance of both sets of trains possible.

Yours faithfully,

R. BELL

Frognal, N.W.3

## Passenger Coach Design

September 13

SIR,—I refer to the articles in your July 12, 19, and 26 issues describing the prototype passenger coaches built for British Railways. Traffic requirements clearly necessitate two different kinds of passenger accommodation; and in both a more comfortable and scientifically designed seat, based on the research of body fatigue whilst travelling, should be fitted. The coaches could all have the same framework and could have many interchangeable body panels as an aid to standardisation.

The present standard design is well suited to cross-country or to main-line pick-up trains. Most experienced travellers would probably agree that for long-distance travel, for distances of over 150 miles, something superior is needed, more especially as the railways will have soon to compete with the helicopter; and as the cost of carriage per mile diminishes with the distance travelled, it is only right that more commodious accommodation should be offered.

A long-distance type of coach would only require one door for each side in addition to a suitable amount of emergency exits. All lighting and ventilation should be able to be regulated from within the compartment. Partitions between compartments and corridors should be all-glass. In second class side-corridor compartments, seats should be three-a-side, with armrests.

For long journeys, the shape of the seat in relation to the passenger's back is an important factor in ensuring comfort. Recent German and Swedish international coaches achieve this by having a bulging-out back-piece and a separate head-piece. Moreover, the seat can be pulled forward to give a reclining position or right across the compartment with night travel, so giving a continous upholstered surface across the compartment.

Yours faithfully,

E. DECREUS

29, Chadwick Road, E.11

## Steam Locomotive Sounds

September 3

SIR,—I have recently had the good fortune to be presented with a long-playing gramophone record with one of the Transacord Company's sound recordings of a journey from Victoria to Chatham behind the Maunsell 4-4-0 rebuild No. 31019, driven by the famous Sammy Gingell and fired by Mr. Richard Hardy of Stewarts Lane.

Listening to this record is a truly exhilarating experience. If in the years to come those who will know nothing of it ask what was the Magic of Steam, here I think will be the answer. In a quite amazing way this record brings out the union between engine and man, and shows why even today the locomotive is referred to as the "iron horse." The one is little without the other. Together they touch the heights. No one can listen to the changing note of the engine's exhaust, whether in its first tremendous storming up to Grosvenor Road or upon the longer ascents up Nunhead and Sole Street, or again in its hurricane descents, without understanding the nature of the effort required from engine and crew upon a fast schedule. You can play this record almost like a symphony and each time get something more out of it. My one hope is that before long there may be enshrined in sound the song of the famous locomotives, so that when the "Castles and the Kings depart" we may still hear their authentic voices and still comprehend what they stood for in the lives of the men who served them.

Yours faithfully,

HENRY MAXWELL

106, Ashley Gardens, S.W.1

# THE SCRAP HEAP

### Asleep on a Sleeper

The week-end sleep of 42-year-old Norman . . . . was interrupted early yesterday by four diesel locomotives and two dozen goods carriages. It seemed to Norman almost as if a train had passed right over the top of him. And that is what *had* happened. Norman had taken his sleep on a sleeper. Police jailed him for drunkenness.—*From the "Daily Express."*

### Mortgaging Locomotives

I recall my father-in-law telling me that he used to fire engine No. 422, which had painted on the side "This is the property of Lord Braybrooke." The reason for this odd inscription was that in the early days of railways, as the owners ran short of ready money to carry on the concern, they would borrow money and then mortgage the stock and allocate certain engines according to the cash lent. When the money was repaid the mortgagor's name would be erased from the locomotive.

The tenders of locomotives in those days had wooden brake blocks which, when applied to the wheels, often used to catch alight, and part of the fireman's job was to extinguish the flames. —*F. H. Smith, a retired driver, in the Eastern Region edition of "British Railways Magazine."*

### The First Small Industrial Locomotive

A correspondent states that the first miniature industrial locomotive built in Britain was to the design of W. G. Bagnall, Castle Engine Works, Stafford, built in 1887 for the 1 ft. 8 in. gauge —though it seems doubtful whether this type of locomotive first made its appearance so late in the century. This was to serve the brickyard requirements of the Ravenhill Patent Brick & Tile Company, Belfast.

The total height of the engine, shown in the contemporary engraving reproduced in the accompanying illustration, was 4 ft. 10½ in. from rail level to the top of chimney. The total length of the boiler was 7 ft. 1 in., and dia. 20 in.. with 17 brass tubes 1¾ in. in dia., the total heating surface was 52 sq. ft. Cylinders were 4 in. dia. and 6 in. stroke. Wheels were 15 in. dia. of cast steel.

### The Argentine Railway Gauge

The centenary on August 30 of the first railway in Argentina has probably given renewed currency to conflicting stories told as to the reason for the adoption of the 5 ft. 6 in. gauge in that country. A widely accepted explanation is that the first two locomotives and rolling stock were bought second-hand from the Crimean Balaklava Railway, which was alleged to have been built with equipment intended for India where the 5 ft. 6 in. gauge had been adopted to afford stability against the monsoon winds.

Recent research, however, has shown that two factors make this explanation untenable. In the first place, the Balaklava Railway was of the 4 ft. 8½ in. gauge; and secondly, the works numbers of two of the earliest locomotives in Argentina, *La Porteña* and *La Argentina,* clearly show that they left the builder, E. B. Wilson & Company, of Leeds, in 1856, after the demolition of the Balaklava Railway had begun. Their dimensions and characteristics as single wheelers with only 11-in. × 18-in. cylinders would make them unsuitable for the heavy gradients of the Balaklava Railway. As we suggested in our August 30 issue, it is more probable that the broad gauge was deliberately chosen, possibly to some extent through sentimental ties with Spain, but more likely from far-sighted policy, as the neighbouring country of Chile already had this gauge, and the up-river republic of Paraguay also had decided to adopt it.

The matter has been further confused by the statements of Lord Frederic Hamilton in his "Recollections" (published in 1921) that both the Balaklava Railway and the railways of Argentina used the 5 ft. 3 in. gauge to suit contractors' equipment built for Ireland. In fact, the Irish gauge was used for neither. Adoption of the 5 ft. 6 in. gauge for India does not appear to have had any direct bearing on the selection of the Argentine gauge, although it is possible that the locomotives were laid down for India, and diverted to Argentina because of the Mutiny of 1857.

### Milford and the Railway Mania

Another Milford pipe-dream . . . was the idea of a through rail route from Manchester to the Haven, which originated during the great "Railway Mania" of 1845-6. Eighty-six directors were appointed for a grand line intended to reach Milford Haven by way of Crewe, the Plinlimmon massif, and Carmarthen. The scheme collapsed long before the first plate could be laid, but the idea was partially revived in 1860 when those still believing in a Manchester-Milford link were legally enabled to build a line from Pencader, recently reached north of Carmarthen, to Llanidloes, on the Wye Valley branch of the Cambrian Railway. The new line reached the romantically named Strata Florida and then diverged to the coast at Aberystwyth. Alas, no money was available for the riskier venture of driving the main line to Llanidloes (and Manchester) through the wild moorlands above Yspytty Ystwyth, Pontrhyd-y-groes, and Llangurig. In the end the quiet line to Aberystwyth became part of the Great Western. — *From "The Manchester Guardian."*

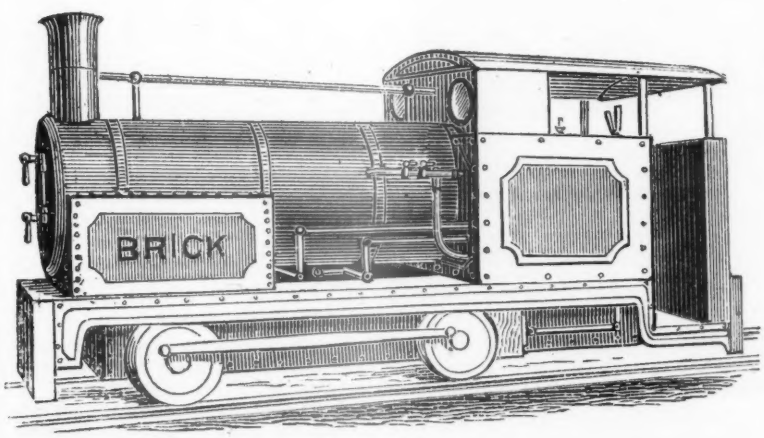
### Diesel Dilemma

You must wake and call me early,
Call me early, Mother dear,
For I've got to drive a diesel
And at present I'm not clear
What will happen, if, as maybe,
I go turning the wrong taps,
In some over-zealous moment—
Nothing very much, perhaps.

In the olden days, with "steamers,"
We could tell just how they felt
By their answer to the throttle
And the very way they smelt.
Most of them made music for us,
If we kept them on the boil,
But its quite another story
Now we're running things on oil.

For a diesel groans and grumbles
And, alas, it has no song,
And but little conversation,
As it sniffs and snorts along.
Maybe I don't know its language,
But one thing at least seems clear—
I shall darn well have to learn it—
Call me early, Mother dear!

A.B.




*Bagnall 1-ft 8-in. gauge locomotive built in* 1887 *for a firm of brickmakers*

# OVERSEAS RAILWAY AFFAIRS

*(From our correspondents)*

## NEW ZEALAND

### Milson Deviation

To enable through Main Trunk goods trains to bypass Palmerston North, an important junction 85 miles north of Wellington, a 7½-mile line is being constructed from Longburn past the Milson goods yard to the main line about 2½ miles north of Palmerston North. During the current year it is planned to lay the track, install alarms at three level crossings, and set up tablet working over the whole line from Longburn through Milson to Bunnythorpe; the latter station is six miles north of Palmerston North.

At a later stage in the long-term programme, the present goods yard at Milson will be replaced by high-capacity yards and goods sheds, so that all goods traffic can be diverted; a new locomotive depot will then be built, and finally, a passenger station and parcels depot on the new site.

### New Station at Christchurch

Construction of the foundations and basement for the new station at Christchurch was completed recently and a tender of £826,921 accepted for erection of the main block and east wing. When this section is completed and occupied, the old building will be demolished, enabling the west wing of the new building to be erected.

The frontage of the new station will measure 524 ft.; that of the central four-storey block will be 204 ft. Exterior finish will consist of blue stone base to the street frontage, face bricks above pointed in white, piers between the windows in blue terracotta, steel window-frames painted white, and the plaster finished in off-white.

Including associate works, such as platform and yard re-arrangement, and re-signalling, the total cost of the project will be about £2,500,000.

## NEW SOUTH WALES

### Queanbeyan-Canberra Link

The N.S.W.G.R. has rejected a request by the Commonwealth Railways to take over and run the seven-mile spur line from Queanbeyan to Canberra. This line, which connects the Australian Capital Territory Railway with the New South Wales Railways southern system, ran at a loss of £20,000 in the past financial year.

## CHINA

### Sino-Tibetan Railway

According to an official announcement, the survey for a line connecting China with Tibet has been completed. The route rises to an altitude of 16,000 ft. in crossing a mountain range, though the location is not specified.

## UNITED STATES

### Toledo, Peoria & Western Railroad

The Interstate Commerce Commission has authorised the Atchison, Topeka & Santa Fe and Pennsylvania Railroads jointly to acquire, at a cost of $12,150,000, the capital stock of the Toledo, Peoria & Western Railroad, the actual purchase being made by the Santa Fe, which will then dispose of 50 per cent of the stock to the Pennsylvania. The T.P. & W. is a 234-mile "bridge line" for freight traffic, passing to the south of Chicago and extending from Effner in the east to Keokuk and Lomax in the west; en route it connects with 15 other railways running out of Chicago to the east, south, and west.

### New York Traffic Proposal

The difficult position of many American railways in their compulsion to operate "commuter" or season ticket-holder services round large cities, on which they tend to lose more money than on any other kind of passenger transport, is producing a variety of proposals for easing the burden. One such has recently been put forward by the Metropolitan Rapid Transit Commission, which has been studying travel conditions between New York and across the Hudson River in New Jersey.

The proposal is to create a New York-New Jersey Transport District, which would take over the whole of the New Jersey suburban services, as well as those from and to the West Shore line of the New York Central System.

The Hudson and Manhattan tunnels under the Hudson River would be partially rebuilt, and the New York subways would be extended to link up with the railways in Jersey City, so providing a through service between the suburbs concerned and New York City without the necessity of using the ferries across New York Harbour. The railways would continue to operate the trains and would be reimbursed for their out-of-pocket expenses.

The total cost of the proposal is estimated at $400 million, including $55 million for new cars. An anticipated deficit of $12 million annually would be met by additional district taxes. The plan does not include the suburban lines on the north side of the city, in the Westchester-Connecticut area, which will be the subject of a separate report.

## SWITZERLAND

### New Passenger Stations

The Administrative Council of the Swiss Federal Railways has voted a credit of £775,420 for an enlargement of the important station of Sion, on the Simplon main line, on such a scale as practically to constitute a new station. The existing single platform will be supplemented by a new platform 1,214 ft. long and 19 ft. wide, between the present up and down lines, reached by a subway, and the existing passing

### Electric Working in New South Wales

*Sydney train, hauled by Metrovick 3,820-h.p. Co + Co locomotive, descending a gradient in the foothills of the Blue Mountains on the recently-electrified Parramatta-Lithgow line (see our August 2 issue)*

tracks Nos. 1 and 4 will be lengthened to 2,198 and 2,592 ft. respectively. A new building 590 ft. long will be devoted mainly to freight handling, and will contain at one end offices for the freight staff; at the other end, abutting on the existing platform, there will be a new restaurant and buffet. The present station building also is to be completely reconstructed. Electric operation of all points and signals from a central control office is to be installed.

Considerable progress has been made towards the reconstruction of the station at Ragaz, as part of the doubling of the main line from Sargans to Chur. The new island platform and its subway approach are complete, together with the rearrangement of the approach lines from the east, and the interior of the station building has been transformed with modern furnishings and décor.

## FRANCE

### Track Lowering in Tunnel

To avoid the heavy task of installing a special ventilation system necessary before long-term track work could commence in the Crêt-d'Eau tunnel, an unusual expedient was adopted. Track lowering, by the removal of some of the rock bed on which the track was laid, was necessitated by the electrification of the Bellegarde-Geneva line at 1,500 V. d.c. with overhead catenary, and permanent way staff could not work in this tunnel without additional ventilation while it was being used by steam trains.

It was, therefore, decided to organise emergency single-line electric working through the tunnel, and a temporary catenary was erected over one track while work was carried out on the other. When the excavation of one track was complete, the permanent catenary for this track was erected and excavation work continued on the other. While the excavation work was under way, the catenary feeder on the line being excavated was charged with current at 500 V. d.c. to provide light and power in the tunnel.

### Improved Services for Strasbourg

The S.N.C.F. is reported to be planning improvements to the passenger train services affecting Strasbourg, as the future headquarters of the European Common Market.

### Repairs to Wagons in Service

The Angers wagon maintenance depot has devised a lightweight portable apparatus which is proving highly effective in enabling certain minor repairs to the axleboxes, bearings and suspensions of wagons to be carried out on the spot. The equipment, which only weighs 176 lb. in all, consists of a lightweight jack and a table-type support on which it normally operates. To move the equipment from place to place the support is placed on a two-wheel axle to form a barrow to carry the jack, journal packing and other parts and tools.

For working, the support is placed on the track beneath the undercarriage, and the jack, resting on the top of the support, is used to lift the wagon body. A defective spring on a wagon conveying four containers was recently replaced in 18 min. with the aid of this apparatus.

## HUNGARY

### Mávag Locomotive Works

The Hungarian Locomotive Works (Mávag) recently completed its 2,000th locomotive built since 1945, the 10th of 40 "YL" class 2-6-2 metre-gauge locomotives for the Indian Railways. The locomotives are conveyed, before being wheeled, on flat wagons to the Jugoslav port of Rijeka (formerly Fiume); there they are wheeled, it is stated, before shipment to India.

The Mávag plant dates from 1871. Its 1,000th locomotive, a 4-4-0 four-cylinder compound for the then Royal Hungarian State Railways, was exhibited at the Budapest Millenary Exhibition of 1896.

The 4,000th locomotive, an 0-6-6-0 Mallet locomotive, also for Hungary, was completed in 1917; and its 5,000th in 1932—a 4-8-0 for the Hungarian State Railways (M.A.V.), of a class of which a great many have since been built for export. The works was severely damaged by air attack towards the end of the 1939-45 war, but repairs are stated to have been quickly effected. Export of locomotives began in 1945.

## Publications Received

*Gleisbilder* (*Illuminated Track Diagrams and Panels*). By Dr. Wilhelm Schmitz. Frankfort: Dr. Arthur Tetzlaff Verlag, Niddastrasse, 64. 160 pp. 8 in. × 5¾ in. Illustrated with photographs and diagrams. Price DM. 9.—Dr. Schmitz, well known for his contributions to the history of power interlocking circuits and apparatus, brings together in this second volume of a series of modern signalling developments the salient features of the many designs of illuminated diagrams and relay interlocking panels produced by manufacturers in various countries and applied in installations of all sizes, especially since the war. The general conceptions underlying the different arrangements adopted and the forms selected for the components, such as push-buttons, tip or rotary switches, panel plates, with unit construction items and supports, lamp indicators, and consoles, are described and discussed. The number of arrangements now in service is considerable, and it is useful to have them covered in such detail. While in some countries the diagram with operating console in front has obtained the preference, in others the choice has fallen on the panel complete in itself, with all buttons, switches, and so on, mounted thereon, and even at times the train descriptions exhibited in the track sections themselves. Variations of this equipment are in use on light railways, where simpler conditions obtain, in marshalling yards, and elsewhere, and these also are commented on. The illustrations and diagrams have been carefully selected to cover the points discussed and the work, to which the Chief Signal Engineer, German Federal Railway, Dr. Walter Schmitz, contributes a foreword, will be especially helpful to signal engineers needing to be acquainted with practice abroad. There is a useful list of firms, often referred to in the text, and a guide to their publications and articles on the subject.

*The Brazing of Aluminium and its Alloys.* London: The Aluminium Development Association, 33, Grosvenor Street, W.1. 36 pp. Illustrated with photographs and drawings. Price 2s.—This booklet, No. 22 in the A.D.A. series of information bulletins on joining processes for aluminium, opens with a brief comparison of the principal methods of brazing—flame, furnace, and flux dip—and then deals with the basic principles, including an essential note on the operation of capillary flow. The properties of aluminium and some of the alloys suitable for brazing are tabulated and corresponding data are given for aluminium filler alloys, with notes on clad brazing sheet. Preliminary notes to the operations proper include information on fluxes, references to joint design, and notes on preparation for brazing, on fluxing, and stopping off. The different brazing procedures of flame, furnace and flux dip brazing are described, followed by notes on flux removal and the finishing of brazed components. The choice of brazing method is dealt with in the light of the preceding descriptions, after which the properties of brazed joints are briefly discussed. The bulletin concludes with information on the brazing of aluminium to other metals.

*Trains for the Business Man.*—The Scottish Region has produced two vest-pocket size folders, one for Glasgow and one for Edinburgh, entitled "Trains for the Business Man." The background colour for the Glasgow booklet is blue, and for Edinburgh, red. As the title indicates, these miniature train service guides give a suitable morning departure time from Glasgow and Edinburgh to the principal cities and towns in Scotland, with return trains to bring the traveller home the same day. Information is given clearly. The only disadvantage is that the few notes (there are only seven in all for Glasgow and 19 for Edinburgh) which might well have been printed on the appropriate page, are grouped on the back covers.

# Ten Years of Nationalised Transport—1

*Progress of the British Transport Commission in a time of political and organisational upheavals*

(*By a correspondent*)

TWO years later, to the day, than the end of hostilities on VJ Day, August 6, 1945, the Royal Assent was given to the Transport Act, 1947; and the whole of the 12 years since then has been filled with matters of moment to the transport industry of the country. Throughout the war of 1939-45, the railways, road services, and docks were severely tested and carried enormous burdens. Tracks, stations, bridges, and quays suffered much damage by enemy action: no new works, save those demanded for the prosecution of the war, had been undertaken.

Although the morale of the staff was high, the management was hindered in its efforts to restore rail services to normality, for it was without thousands of skilled staff who were serving in the Forces and elsewhere, and stocks of essential materials, such as steel and timber, had been run down.

Even so, the directors and general managers of the four main-line railway companies, the Great Western, the London, Midland & Scottish, London & North Eastern, and Southern Railways, began to lay plans to make their systems once again among the best in the world. However, in the General Election of August, 1945, a Labour Government was elected with a mandate to bring the fuel, power and transport industries into public ownership. In consequence everything changed overnight. There was a new climate. The outlook became most uncertain. Then on November 28, 1946, there was published the text of the Transport Bill.

## Transport Act, 1947

The publication of the Bill had a most disturbing effect in the transport industry. In some quarters it was welcomed, but in others it aroused fear and violent opposition. The Government was determined to see the measure placed on the Statute Book quickly and it adopted the "guillotine" procedure at the Committee stage in order to limit discussion. Before the Summer Recess in 1947 the Bill became an Act of Parliament.

It was carefully and anxiously studied, for it was realised that in some way or other it would affect nearly everybody. It was a lengthy and complex document with 128 sections and 15 schedules, but its main purport was clear—the bringing into public ownership of railways, docks, and certain other forms of transport. The Act established a British Transport Commission and with little delay the Minister of Transport, armed with his new powers, named the Members of this new body.

On September 8, 1947, little more than a month after the passing of the Act, Mr. Alfred Barnes, the Minister, appointed as Chairman of the Commission, Sir Cyril Hurcomb (now Lord Hurcomb), who had been Permanent Secretary to the Ministry of Transport, and a former Chairman of the Electricity Commissioners. For the other four whole-time Members the Minister looked far afield and appointed Lord Ashfield, who had been Chairman of the London Passenger Transport Board and a former President of the Board of Trade; Lord Rusholme from the Co-operative world; Sir William Wood, President of the London Midland & Scottish Railway Company (which was to pass out of existence on Vesting Day); and Mr. (now Sir) John Benstead, General Secretary of the National Union of Railwaymen. One part-time Member was appointed, Sir Ian Bolton, who had special knowledge of Scottish conditions and was a director of the L.M.S.R.

The Chairman's salary was fixed at £8,500, and other whole-time members were to receive £5,000 a year. Part-time Members received £500. The fixing of these salaries in 1947 was destined to have a limiting effect upon the salaries of the officers of the Commission—for reasons which it was difficult to comprehend. These figures remained unchanged for almost 10 years, being raised to £10,000 for the Chairman and £7,000 for the whole-time Members only with effect from July 1, 1957.

The first report of the Commission, published in August, 1949, records the way in which the Commission set to work. It met at 55, Broadway, S.W.1, in the headquarters building of London Transport, part of which it occupied until the abolition of the Railway Executive in 1953, when it moved to the Executive offices at 222, Marylebone Road, N.W.1. At its first meeting it considered what form of organisation it could best adopt for the conduct of internal business and for the devolution of authority to the several Executives established under the Act to assist the Commission.

The Commission took the view that it was a policy-making and directing body which should act collectively. It also decided it should not discharge executive functions, either collectively or individually. This resulted in the Executives setting up, in due course, their own organisations on a functional basis.

The Minister next turned to the five Executives to be set up, under Section 5 (3) of the Act, known respectively as the Railway Executive; Docks & Inland Waterways Executive; Road Transport Executive; London Transport Executive; and Hotels Executive. On September 12, 1947, the Minister, having consulted the Commission, announced the names of the members of the Railway Executive. He appointed Sir Eustace Missenden, formerly General Manager, Southern Railway, as Chairman. Six whole-time members were appointed: Messrs. W. P. Allen, V. M. (now Sir Michael) Barrington-Ward, D. Blee, R. A. Riddles, J. C. L. (now Sir J. Landale) Train, and General Sir William Slim. Except for Mr. Allen and General Slim, all were formerly Chief Officers of the main-line railways. Two part-time members were appointed: Sir Wilfred Ayre and Mr. C. Neville. The appointments of the whole-time members, like those of the members of the Commission, were for a term of almost five years.

After consultation with the Commission, the Minister established the London Transport Executive and the Docks & Inland Waterways Executive in December, 1947. Appointments to the other Executives were not made until March (Road) and June (Hotels) in the next year.

## Monopoly Powers

Section 2 of the Act gave the Commission extensive monopoly powers over rail transport and in certain other directions. Section 3 set down the general duty of the Commission. "It shall be the general duty of the Commission so to exercise their powers under this Act as to provide, or secure or promote the provision of, an efficient, adequate, economical and properly integrated system of public inland transport and port facilities within Great Britain for passengers and goods with due regard to safety of operation; and for that purpose it shall be the duty of the Commission to take such steps as they consider necessary for extending and improving the transport and port facilities within Great Britain in such manner as to provide most efficiently for the needs of the public, agriculture, commerce and industry."

Provision was made in Section 6 for the creation of Consultative Committees and Section 7 dealt with the acquisition of undertakings by agreement. Part II covered provisions relating to railways and canals and Part III covered transport of goods by road—a vital part having regard to the purpose of the Act vis-a-vis "integration."

There were frequent contacts between the Commission and the Executives on the many issues to be decided before Vesting Day. Meanwhile, the directors of the railway companies continued in office until the close of the

year. The Commission, in accordance with Section 5, took steps to prepare the necessary schemes of delegation to enable the Executives to undertake the tasks entrusted to them and in its first annual report the Commission recorded a list of the various schemes of delegation made between November 22, 1947, and December 13, 1948.

Vesting Day passed almost unnoticed, save in official circles. Not only was January 1, 1948, the day when the British Transport Commission assumed full responsibility for the railway and other undertakings named in the Third Schedule to the Act, but it was also the day when the control of railways and inland waterways which the Minister of Transport had exercised since 1939 came to an end.

Looking back, it may well be thought that it would have been better to have allowed a longer period to have elapsed between the passing of the Act and Vesting Day. Much of what was accomplished was only rendered possible by the friendly relations which existed between the officers of the four railway companies who were drawn from their former duties and brought together to produce the plans and schemes required to implement the Act in all its complexity.

### Regional Organisation

Six Regions were established, each in charge of a Chief Regional Officer. The North Eastern Region corresponded to the former North Eastern Railway of pre-grouping days; the Southern and Western to the Southern and Great Western Railways respectively, the Eastern to the Southern Area of the London & North Eastern, and the London Midland to the London Midland & Scottish lines in England and Wales, whilst the Scottish lines of the L.N.E.R. and L.M.S. formed the Scottish Region. There have been a few changes in Regional boundaries in the past 10 years, but, on the whole, the Regions today are much the same as in 1947.

The six Chief Regional Officers reported direct to the Executive, being responsible for the general administration of the Region, subject to the policy and directions of the Executive. The Regional departmental officers were responsible to, and took instructions from, the functional members of the Executive.

At the Commission offices, many urgent matters arising from the Act began to develop. There were big financial questions, the creation of British Transport Stock, the conversion of railway and canal securities into British Transport Stock, rating procedure, banking arrangements, the disclaimer of agreements, and appoints to numerous boards and committees.

The Commission met twice a week in formal session and daily informally. Individual members initiated or led talks on such matters as charges policy, staff policy, the formation of consultative committees, and the acquisition and future management of the road haulage undertakings to be acquired under the Act.

On March 8, 1948, the Road Haulage Executive was constituted. Major-General G. N. Russell became Chairman, and there were four other whole-time members and three part-time members. A scheme of delegation was made, approved by the Minister of Transport and introduced on April 15. The Executive had an unenviable task to face, for although the Executive was never expected to own and operate the entire road-haulage industry of the country, it did not take over a ready-made organisation but had to build up from the beginning.

In considering the happenings of a decade of nationalisation it is relevant to enquire whether the prime objective of the Act was ever achieved, and secondly, whether that statutory "duty" was ever discharged by the Commission.

### Tasks of the Commission

A partial answer can be found in the Commission report for the year 1953, in which it listed the most important tasks laid upon it by the Act:—(*a*) the unification of the railways; (*b*) the creation of a unified waterways system and the re-grouping of the former railway-owned docks; (*c*) the rapid acquisition, through the Road Haulage Executive, of between 3,000 and 4,000 separate road haulage undertakings predominantly engaged in long-distance haulage, and their organisation into a public service; (*d*) the preparation of area schemes for passenger road transport; (*e*) the preparation of schemes for trade harbours; and (*f*) the preparation of charges schemes covering the chief services and facilities provided.

The Commission stated that it felt entitled to draw attention to the formidable nature of the tasks laid on it in 1947 and claimed that the first three tasks listed were successfully accomplished. The preparation of schemes for passenger road transport and trade harbours was carried as far as possible, but, after a time, it became clear that there was little prospect of effect being given to any such schemes. As to item (*f*), the Commission pointed out that schemes for controlling passenger charges schemes were duly lodged and approved, but a freight scheme was not possible until the new road haulage organisation had been fully established. By 1951 the Commission recognised that changing circumstances made it necessary to revise the basis upon which an acceptable scheme must rest. The new basis was presently laid down in the Transport Act of 1953.

That the Commission did unceasingly press towards a conclusion its plans for "integration" is obvious from the many references to the subject in its annual reports and in other published documents. Some very comprehensive and realistic plans were drawn up and discussed. For example, in July, 1950, it issued an impressive "Statement of Policy on the Integration of Freight Services by Road and Rail."

In its report for 1950 the Commission made the following pointed observations:—

"Unfortunately there is still a lack of appreciation in some quarters of the ultimate value both to the community and to the staff of the Executives of the increased efficiency which can be derived from integration and of the clear duty of the Commission to effect it under Section 3 of the Transport Act. No opportunity has been lost to emphasise that integration is vital to the prosperity of the Commission's undertaking. . . ."

With the General Election of 1951 producing yet another political upheaval the transport industry was again disturbed. This is, perhaps, the appropriate point at which to survey the events which led to the passing of a new Transport Act, to which Royal Assent was given on May 6, 1953, and which resulted in extensive changes, not only in personnel, but in the conception and outlook hitherto prevailing.

Before plans for integration, already well advanced, could be put into operation, an agreement with and between the trade unions in respect of transfers of staff was still awaited. When an agreement was at length reached it was too late. If a full understanding had been reached between and with the unions a year or so earlier then everything that happened after might have been different. As it was, with the issue of a White Paper on May 8, 1952, there was forecast legislation which would impose on the Commission a duty to dispose of its road haulage undertaking and would require decentralisation of the railway organisation.

### Transport Bill of 1953

Two months later, on July 9, a Transport Bill was published. The Bill was re-introduced in the Autumn Session of Parliament, with some modifications. It became law in the following May. The new Act completely changed many things in inland transport. It changed the "General Duty of the Commission" and expressly limited it to providing railway services for Great Britain and a co-ordinated system of passenger transport in the London area, together with certain other services and facilities in such places and to such extent as may appear to the Commission to be expedient. Provision was made for the disposal of the Commission road haulage undertakings and a fortnight after the Bill became law the Minister of Transport announced the composition of a Road Haulage Disposals Board.

The railways were given greater freedom in the matter of charges and there were provisions for a re-organisation of the Commission, the abolition of the Railway Executive, and the decentralisation of railway management.

On August 19, the Minister made an Order under the 1953 Act, which came into effect on October 1, abolishing all Executives except the London Trans-

(*Continued on page* 334)

# Laminated Timber in Station Roof Construction

*Initial experiment by London Midland Region at Preston*

*Laminated timber station roofing at Preston, London Midland Region*

THE use of laminated timber for the recent reconstruction of the low level roofs over bays 5 and 6 at Preston Station is the first such application in the London Midland Region of British Railways.

The appearance of the finished work and the ease of erection of the prefabricated units justified the experiment and further use of laminated timber is likely to be made where practicable.

The possibility of using this new material for Preston Station was first explored last year by Mr. J. Taylor Thompson, Chief Civil Engineer of the Region. An approach was made to J. Samuel White & Co. Ltd., of Cowes, Isle of Wight, which had carried out a considerable amount of research in the lamination of ships' timbers.

### Design of Structure

After preliminary talks on the suitability of this new medium, the Chief Civil Engineer designed a structure. It consisted of laminated column and cantilever beam units with the necessary connecting arches and longitudinal span beams, with intermediate continuous span and cantilever beams bearing on the longitudinal span beams at their mid point.

The whole production was to be carried out in select merchantable Douglas fir laminates glued with Cascophen Resorcinol resin glue, R.S. 216-M, with catalyst F.M. 60-M. manufactured by Leicester Lovell & Co. Ltd. This adhesive conforms to B.S.S. 1204 W.B.P. and is a natural gap-filling adhesive approved by the Admiralty for use in naval craft and by the Ministry of Supply for aircraft production. The laminates were to be kiln dried to a moisture content of 12/14 per cent.

Before the contract was finally placed, J. Samuel White & Co. Ltd. undertook the manufacture of test pieces simulating the cantilever beam and column, which were tested to destruction in the firm's works.

The contract to proceed with the work was placed with the firm, whereupon orders were given for the necessary timber to be cut to the required scantling sizes to expedite the kiln drying processes. After this the laminates were machined so as to be received at the works ready for glueing.

The total contract consisted of 111 laminated components with 34 laminated timber brackets. Splice plates and standard shear plate connectors of 2½ in. dia. were used at certain points along the structure. Laminates varying from ¾ in. to 1 in. finished thickness were used, these being cut from squares and logs. The total quantity of timber in the contract amounted to approximately 1,850 cu. ft.

### Templates and Jigs

The design was laid off full size on the contractor's mould loft floor and from this plywood templates of the actual members were produced. These templates were in turn used to achieve the correct shape of the jig on which the laminates were subsequently produced. These jigs were built on a sparred floor under which a hot-water pipe system was installed capable of providing the requisite temperature for glue curing. The jigs consisted of steel brackets bolted down at intervals of approximately 9 in. and to the vertical face of these was bolted a timber caul producing the correct shape of the required unit. Heavy bolted cramps were provided in the spaces between the jig brackets for bolting the laminates into the curing position.

### Glueing

Laminates forming each unit were prepared in the requisite length and numbers in sets ready for glueing and assembly; any necessary pre-scarfing having already been done and cured as a separate operation, a slope scarf of 1 in 12 being used. The laminates were then passed through a glue spreading machine which deposited glue on both sides at a spread of approximately 3½ lb. per 100 sq. ft., except for the outside laminates, which were glued on one face only.

Immediately after passing through the glue spreader the laminates were assembled on the jigs with the glue lines vertical to the floor and an outer wooden caul was placed around the whole assembly. The cramps were then fitted in position and the unit hove up to the correct shape of the jig. Ratchet spanners were used to tighten up the cramps giving a final overall pressure in the members of approximately 150 lb. per sq. in. The temperature was then raised to give 75° to 80° F. in the glue line, this being maintained for a period of approximately 5 hr. On removal from the jig the units were left in an unstressed condition for one week at least before any cleaning up or finishing.

At the conclusion of the unstressed period, components were passed to the machine shop for finishing. This consisted of the removal of surplus glue, squeezed out of the glue lines under pressure, and the final shaping of the rough units for assembly. The final cutting to shape was done by passing the units separately on roller trollies through a band saw or spindle moulder as required. Mortises partially built in during lamination were next completed and cleaned out with hand tools. Side surfaces were planed to the required scantling with a travelling electric planer, difficult points being finished off with a small portable electric Tarplaner. All the units were finally treated with an electric belt sander. The finished components were next given a filler coat followed by two coats of Sar-Rez clear synthetic resin finish.

Before leaving the J. Samuel White works the units had all been marked for assembly and Charles R. Price, of Doncaster, the contractors, who had previously constructed the foundations, experienced no difficulty in assembly.

# High-Speed Junctions and Crossovers

*New switches in* 109-*lb. f.b. rail developed by Southern Region*

TO meet the need for the higher speeds envisaged as modernisation takes place, the Southern Region of British Railways has developed two new switches in 109-lb. f.b. rail, the designs for which have now been accepted as standard by the Civil Engineering Committee of the British Transport Commission. Both have been installed in the Region, as described below.

### Chamfered Switches

They are the "Curved F" and "G" switches and are both of the chamfered type, which, by the undercutting of the stock rail, permits the retention of sufficient metal in the switch rail to provide the robust section desirable at and near the switch toe when very fine entry angles are used.

The Curved F switch is a simple modification of the standard F, the switch curve being continued throughout the side planing, which has resulted in a lengthening of the latter by 6 ft. 2¾ in.

Comparative features are tabulated below:—

| Switch | Type | Entry angle 1 in. | Length and type of side planing | Radius of switch curve and turnout curve—ch. | Crossing 1 in. | No. of stretcher bars |
|---|---|---|---|---|---|---|
| Standard "F" .. | Undercut .. | 80 | 18 ft. 4 in. straight .. | 58 | 20 | 4 |
| "Curved F" .. | Chamfered | 163 | 24 ft. 6¾ in. curved 58 ch. rad. | 58 | 20 | 4 |
| "G" .. .. | Chamfered .. | 320 | 40 ft. 10⅜ in. curved 125 ch. rad. | 81 | 24 | 6 |

*Standard undercut "F" switch toe*

In the design stage consideration was given to the effect of switch divergence in terms of cant deficiency, i.e. lateral thrust.

It was noticed that switches having a long straight planing, such as the standard F, not only produced a very high rate of gain of cant deficiency in vehicles traversing them, but that this was almost immediately lost as the vehicle passed from the "straddling" position to that where the rear bogie centre was over the switch toe, thus producing a lurch at even slightly excessive speed. The G switch was designed to reduce both the initial rate of gain of cant deficiency and the subsequent fall-back to a minimum.

### Manufacture and Trials

Manufacture presented problems inherent both in the exceptional length of curved chamfered head planing and in the foot planing of the full length of the 60-ft. switch rail. These, however, were successfully overcome at Redbridge Works, which was responsible for making both the prototype G and Curved F switches.

These were installed in November, 1956, at Worting Junction, near Basingstoke, in the up Southampton line, the facing G switches, laid on the straight, forming the connection to the up local line and the trailing Curved F switches that to the up through line.

In this case the G switches were laid with a 1 in 20 crossing (the flattest available) and have been comfortably negotiated at 72·6 m.p.h. in service trials, indicating that, with their "natural" crossing of 1 in 24 they should be adequate with a speed restriction of 75 m.p.h. Hallade records taken during trials confirmed that design objectives were achieved.

Two sets of Curved F Switches have been installed at Balcombe Junction on the Brighton main line, and a further two at Southwark Park Junction, both under severe traffic conditions.

### Speed Restrictions

In the Southern Region a speed restriction of 50 m.p.h. is considered suitable for Curved F switches diverging from the straight. G switches will

*Chamfered "G" switch toe*

*" G " switches on up Southampton line at Worting Junction, Southern Region*

be used where higher speed restrictions up to 75 m.p.h. from straight are required and site conditions permit.

A number of 1 in 24 and 1 in 28 crossings for use with G switches will be required by the Region for installation in 1958, the former for junctions and the latter for high speed crossovers.

As it is considered undesirable that crossings flatter than 1 in 20 shall be of the conventional fabricated type, designs for 1 in 24 and 1 in 28 cast higher manganese steel crossings have been prepared, in consultation with the crossing makers on matters of manufacturing detail.

### Layout for Double Junction

Layout drawings for a double junction embodying G/24 turnouts have been completed. By the use of two-level baseplates and transition curves as necessary, a practically constant cant deficiency of just over 2½ in. at 75 m.p.h. is possible.

A transitioned crossover design, using G switches and 1 in 28 crossings has been prepared, for installation next year at Worting Junction as a facing crossover between straight tracks with standard 6-ft. 5½-in. interval.

It is hoped to obtain comfortable riding through the crossover with a speed of at least 70 m.p.h. but its final assessment must be based upon actual service trials.

## Ten Years of Nationalised Transport

(*Concluded from page* 331)

port Executive. An " interim " scheme of organisation for the railways was introduced; the railway Chief Regional Officers were re-titled " Chief Regional Managers " and given wider powers than they had had under the Railway Executive; and direct contacts were established between the Commission and the Regional organisations of the railways.

The Commission moved in October, 1953, to 222 Marylebone Road, which building had housed the Railway, Road, and Hotels Executives since the beginning of nationalisaton.

There were many changes in personnel, the most important being the retirement of Lord Hurcomb from the Chairmanship. Sir Brian Robertson became the new Chairman and Sir John Elliot, who had become Chairman of the Railway Executive when Sir Eustace Missenden retired in 1951, moved to 55, Broadway, to assume the Chairmanship of the London Transport Executive.

For the Commission it was a difficult time in many ways and it decided to list the six main objectives which it hoped would aid it to fulfil what it termed its " mandate." These were: (*a*) a loyal, contented, keen staff employed in the most productive manner; (*b*) an equipment, in the widest sense of that word, of modern design and fit to give reliable and speedy transport service on a large scale; (*c*) an organisation for the management of manpower and equipment framed to get the best out of both; (*d*) a commercial policy which by virtue of its drive; flexibility and business-like character will offer the Commission services to the using public on the best possible terms consistent with financial soundness; (*e*) an operating policy which will exploit the potentialities of the various means of transport at the Commission disposal in the manner calculated to get the best out of them separately and in combination; (*f*) recognition by the public. including trade and industry, of the Commission concern for their interests and ability to serve them.

The Commission prepared and presented to the Minister another scheme for the re-organisation of railways and this was published as a White Paper on July 13, 1954. Debates in Parliament followed, and an Order was made for the new scheme to be introduced on January 1, 1955.

### Area Boards

The Order made provision for Area Boards—a new conception—as well as for a British Railways Central Staff; also for a " General Staff " at the Commission Headquarters. Disputes over pay and conditions led to a strike of members of the Associated Society of Locomotive Engineers & Firemen. The strike began on May 28, 1955, and lasted for 17 days, resulting in disturbing effects throughout the country as well as causing serious financial loss to the Commission. After these disputes the Commission was able to turn its attention to the development of its Modernisation Plan, at a cost then estimated at £1,200 million.

The past 10 years of nationalisation have been crowded and eventful years, if not wholly rewarding.

(*To be continued*)

# Indian Railways Third Class Sleeping Coaches

*Prototype broad-gauge vehicles for day and night travel*

*By A. C. Bhattacharaya, A.M.I.P.E.,*
*Planning Superintendent, Kanchrapara Carriage & Wagon Works, Eastern Railway*

*Arrangement of seats along gangway, and of transverse and longitudinal upper berths*

SIX prototype third class sleeping coaches built in the Eastern Railway works at Kanchrapara are equipped with berths in two tiers. The folding upper berths are upholstered in 2-in. Dunlopillo with Rexine covering, a notable improvement over the past practice. These upper berths are to serve as sleeping berths and kept in the closed position, locked during daylight hours and made available to passengers at night on payment of a surcharge of Rs. 3 a night. The berths are of timber. The body panelling is of 13G aluminium alloy sheets. The main roof carlines are of mild steel flat section, $1\frac{3}{4}$ in. × $\frac{1}{2}$ in.

### Underframe and Bogies

The underframes are of riveted mild steel construction to the I.R.S. design with a length of 68 ft. over headstocks. They are 9 ft. 3 in. wide over solebars and the body overhang is reduced by fixing body brackets on the sides, ends and corners of the underframe so as to extend the width over the body brackets to approximately 10 ft. 6 in. The bogies are also of riveted construction comprising rolled steel sections and steel plates. The wheels are rolled steel disc type.

Plain bearing axleboxes are fitted in all cases. IRS heavy coil bolster springs are used throughout while the laminated side bearing springs with rubber auxiliary springs carry the individual load on each wheel.

The brake gear comprises the automatic vacuum brake and has two standard 24-in. dia. cylinders; the brake on each bogie being operated by one cylinder. The tare weight of the vehicle is some 46 tons. The gauge is 5 ft. 6 in.

### Interior Arrangements

The seating provides accommodation for 80 passengers. The seats have been arranged transversely, affording sufficient knee room for the passengers and inclined to 4 deg. for comfort. Seats are located at a height of 16 in. above the floor and are arranged to face each other. In place of the conventional cast iron legs, cantilever type built-up seat brackets have been provided to support the seats made up of timber frame with match boards laid on it. This facilitates easy sweeping and washing of floors.

### Luggage Compartment

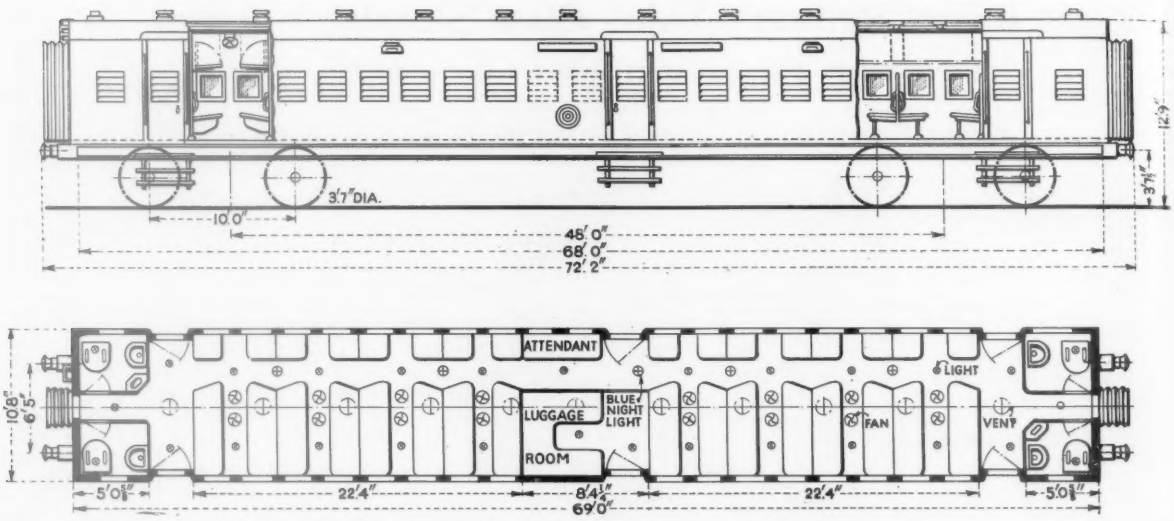
There is a small luggage compartment of $1\frac{1}{2}$ tons capacity in the centre. The intention is to take charge of the passengers' baggage at the time of entraining and return it on completion of the journey. This compartment is 8 ft. $4\frac{1}{4}$ in. long × 5 ft. $10\frac{1}{2}$ in. wide and is provided with a collapsible gate to form the corridor. Facing the collapsible gate and in line with the single seat, a seat for the attendant with locker below has been provided. The locker is fitted with a sliding door.

The partitions for the luggage compartment and the lavatories, the transverse partitions and the personal luggage shelves are of block-board construction and the body interior is finished with plywood. Flooring consists of oxy-chloride flooring composition laid on G.I.P. pattern floor boards.

### Sleeping Accommodation

Hinged upper berths are provided, 16 transverse and eight longitudinal, affording sleeping accommodation for 24. The upper berth partition is constructed of B.R.C. netting of 3-in. × 1-in. rectangular mesh framed in timber to provide for free circulation of air. While the transverse bunks are all of equal size, being 6 ft. long and 1 ft. $8\frac{1}{2}$ in. wide, the longitudinal bunks have been made in two sizes, five being

*Arrangement of upper berths, showing also positioning of fans and lights*




*Prototype third class sleeping coach built at Kanchrapara Works, Eastern Railway of India, showing luggage room and attendant's seat*

5 ft. 6 in. × 1 ft. 9½ in., three 5 ft. 4 in. × 1 ft. 9½ in. Four movable ladders have been placed in each coach for access to upper berths.

### Ventilation

Ventilation of the four lavatories is by banjo type windows. The walls in the lavatories are covered with Eternit granite sheets in a light green shade. The metallic fittings located inside the lavatories are either of stainless steel or chromium plated. A water supply of 240 gal. is provided by two overhead tanks, each of 120 gal. capacity.

To provide a free outlet for air being exhausted through the roof, the coaches are provided with 11 Oriental type ventilators. Amenities for passengers provided in these coaches include 16 16-in. sweep fans of close mesh guard type, four 15-W. blue night lights, separate light switches, ash trays, safety catches on doors, and protection bar fittings on all the window apertures.

Power for the electrical equipment is provided by Stone 100-A. Tonum axle-driven generators. Accumulators are of the standard Indian Railways double battery parallel block system; the battery is of the lead acid type of 300 A./hr. capacity. Control of lights is by magnetic switches and that of fans by ironclad switches.

The finish of the exterior is in gulf red enamel with the railway crest at the bottom panel on both sides. The interior is furnished in a pleasing shade contrast in light buff enamel and light brown enamel conforming to the Indian Railways standard practice for third class coaches. The ceiling has been given a white matt finish.

The door handholds are made of stainless steel tube to give a bright appearance. The door locks are also nickel plated for the same reason. All the windows are of lift-to-open type and fitted with aluminium alloy louvres.

The principal contractors were:—

| | |
|---|---|
| Underframes | Société La-Brugeoise, Belgium |
| Aluminium panels | Indian Aluminium Company |
| Stainless tube hand holds | Pelican Engineering Corporation |
| Block boards | Hind Trading Company |
| Plywood | Albion Plywood Company |
| Ventilators and wash-basins | Oriental Metal Pressing Works Limited |
| Roofing felt | Plummer Brothers & Co. Ltd. |
| Wall protectors | National Alloy & Metal Works Limited |
| Paints | Jenson Nicholson (India) Limited |
| Eternit granite sheets | Asbestos Cement Private Limited |
| Hide for vestibules | Cuthbertson & Harper (Private) Limited |
| Flooring composition | Oxy-chloride Flooring Products Limited |
| Timber | Standard Timber Co. Ltd. |
| Rexine | P. Tosh & Co. Ltd. |
| Train lighting equipment | J. Stone & Co. Ltd. |

The author wishes to express his thanks to Messrs. A. K. Mullick, Chief Mechanical Engineer, Eastern Railway, and D. J. Batliwala, Deputy Chief Mechanical Engineer, Eastern Railway, Kanchrapara Shops.

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C.P.R. Road Transport Plan.—The Canadian Pacific Railway has announced that it holds an option to purchase a majority of the stock of Smithsons Holdings Limited, a holding company for Smith Transport Limited and the affiliated companies. An application by Smith for authority to sell has been filed with the Quebec Transportation Board. The application involves control of all of the Smith Company road transport and other operations with the exception of H. Smith Transport Company, which operates principally in the province of Quebec, and which will remain in the control of the present owners. The announcement was made iointly by Mr. N. R. Crump, President of the C.P.R., and by Mr. S. P. Smith, President of Smith Transport. If the application is approved, and if the option is exercised, it is the intention of the C.P.R. to use the extensive facilities and experience of Smith Transport to co-ordinate rail and road services under a common management so as to provide a more efficient transport service. The Canadian Pacific has long been active in road transport in Western Canada, Mr. Crump has pointed out, and this latest development, if carried out, will allow the company to provide throughout its railway system more efficient and flexible service to meet rapidly changing conditions.

New Cross-Country Freight Services.—Two new through freight services, one from Boston to Cardiff and the other from Barnetby to Dudley, were introduced on September 16. The Boston-Cardiff train departs at 9.50 p.m., Saturdays excepted, and runs via Peterborough, Leamington, Worcester, and Hereford; it is designed to cater primarily for potato and other vegetable traffic, also merchandise from many stations in Lincolnshire, North Cambridgeshire, and Huntingdonshire, to stations in South Wales. The service to Dudley leaves Barnetby at 6.5 a.m., Saturdays excepted, and is routed via Annesley and Egginton; it caters largely for steel traffic from the Scunthorpe area to all Western Region stations via Dudley.

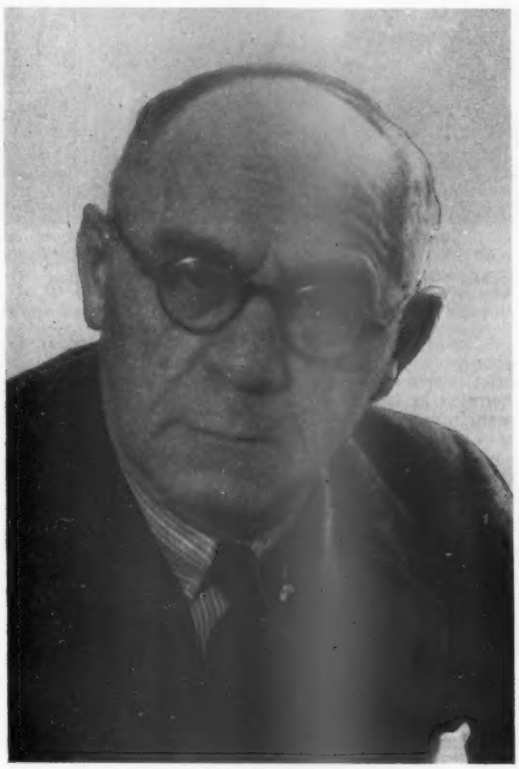
Ilford & West Essex Model Railway Club.—A course of 10 lectures on "The development of public transport in East London, 1850-1950" is being held by the Ilford & West Essex Model Railway Club under the auspices of the Department of Extra Mural Studies of the University of London, at Valence House, Becontree Avenue, Dagenham. The lectures will be held on Tuesday evenings, commencing on October 8, and two Saturday afternoon field visits. The fee for the course is 10s., and further information can be obtained on application to the Hon. Secretary, Mr. R. L. Riddle, 36, Vernon Road, Seven Kings. Telephone No.: Seven Kings 5334.

# RAILWAY NEWS SECTION

## PERSONAL

Mr. B. D. Rampala, General Manager of the Ceylon Government Railways, is on a visit to Europe to investigate questions of signal equipment, motive power, and other material and methods of operation.

Mr. E. W. Rostern, O.B.E., M.C., Chief Officer for Special Duties, British Transport Commission, who, as recorded in our August 30 issue, retired on Friday, September 6, has completed 47 years of railway service. Mr. Rostern was educated at Aldenham School, and began his career on the former Great Central Railway in 1910. During the 1914-18 war, he served in H.M. Forces as a Major in the Royal Engineers. He was mentioned in despatches and awarded the Military Cross and French Croix de Guerre. Mr. Rostern was Liaison Officer to the French Commission de Réseau du Nord in 1917 and a member of the staff of the Inter-Allied Railway Commission in 1919. On demobilisation, he was appointed Assistant Traffic Manager (Operating) at Doncaster. In 1920, he was released to serve as Railway Adviser on the staff of the Inter-Allied Plebiscite Commission in East Prussia, dealing with the passage of rail traffic through the Polish Corridor. In 1924, he became Assistant District Superintendent, Doncaster, and in 1932, District Superintendent, Nottingham. He was Acting Superintendent (Southern Area) of the former L.N.E.R. in 1940 and, a year later, became Assistant Superintendent, Western Section (Southern Area). In 1942 he was appointed Acting Superintendent (Southern Area), and, in 1945, Superintendent. Mr. Rostern was appointed Chief Officer (Operating, Eastern Group) to the Railway Executive, on January 1, 1948. The following year he became Operating Superintendent, Eastern & North Eastern Regions, British Railways. Following the 1955 re-organisation Mr. Rostern was attached to the Office of the Traffic Adviser, British Transport Commission. He served on a number of committees, and was Chairman of the Wagon Control & Distribution Committee (1956). He was awarded the O.B.E. in 1947.



*Mr. E. W. Rostern*
Chief Officer (Special Duties), B.T.C., who is retiring

*Mr. S. C. Robbins*
Appointed Chief Contracts Officer, British Transport Commission

Mr. Jean Bréchot, Principal Engineer of the French National Railways, is in Johannesburg on a co-ordinating mission between the S.N.C.F. and the railway systems of Central and Southern Africa (south of the Sahara). His headquarters will be in Johannesburg, but he will pay frequent visits to Paris. Although primarily a railwayman, Mr. Bréchot has spent a considerable time in the diplomatic service. He is a Bachelor of Arts and of Science of the University of Paris and a Civil Engineer (Paris University). He joined the French Railways in 1934 in the Operating Department and, in 1942, was appointed Chief of the Research & Technical Documentation Department. In 1951 he was selected by the United Nations as a member of the Transport Division (Chief of the Railways Section) of the Economic Commission for Asia and the Far East; he was responsible for the round-the-world study tour of operating and signalling experts of the Asian region, and played an active part in setting up the United Nations Railway Training Centre at Lahore. He has attended meetings of the International Union of Railways and of the Congress of the Association of Railways.

Mr. S. C. Robbins, who, as recorded in our September 6 issue, has been appointed Chief Contracts Officer, at the Headquarters of the British Transport Commission, was educated at Christ's College, Finchley. After working for some years with a well-known firm of stockbrokers, he joined the Ministry of Aircraft Production, and was concerned initially with the administration and finance of radio research, development and production. In March, 1947, shortly after the amalgamation of the Ministry of Aircraft Production and the Ministry of Supply, Mr. Robbins was promoted to be Assistant Secretary. During 1950 he attended the Imperial Defence College, and subsequently, became Assistant Secretary in the Air Division, Director of Contracts (Air), Director of Security, and, since June, 1955, Under Secretary in charge of the Electronics & Guided Weapons Division.

Mr. Edwin King has been appointed Assistant Company Secretary of Black & Decker Limited.

*Mr. A. J. Johnson*

Appointed Assistant Commercial Officer, Euston, London Midland Region

*Mr. G. J. Aston*

Appointed Assistant Operating Officer, Euston, L.M. Region

*Mr. W. Manson*

Vice-President, Pacific Region C.P.R. 1950 57

Mr. A. J. Johnson, M.Inst.T., District Commercial Manager, Stoke, London Midland Region, British Railways, who, as recorded in our September 6 issue, has been appointed Assistant Commercial Officer, Euston, was educated at Stand Grammar School, Manchester, and St. Catherine's College, Cambridge. He joined the former L.N.E.R. as a traffic apprentice in 1928 and, after training in commercial and operating work, gained experience in the Chief General Manager's Office, Kings Cross. He subsequently held positions at Newcastle, Sunderland, Hull, and York. Mr. Johnson became Goods Agent, Hull, in 1939 and returned to Sunderland in 1945 as Acting District Superintendent. Later that year, he became District Passenger Manager, Leeds, and, in 1949, District Commercial Superintendent, Cambridge. He was appointed District Commercial Superintendent, Stoke-on-Trent, the position he now leaves, in 1954. Mr. Johnson was a British Transport Representative on the Transport Users' Consultative Committee for East Anglia from its inception in 1951 to the date he took up his position in Stoke-on-Trent.

Mr. G. J. Aston, Assistant Divisional Operating Superintendent, Derby, London Midland Region, British Railways, who, as recorded in our August 30 issue, has been appointed Assistant Operating Officer, Euston, entered railway service at New Brighton. After training at a number of stations and in various departments, he was appointed Assistant District Controller at Toton in 1938. He became Headquarters Inspector (Freight Services) attached to the Divisional Superintendent of Operations, Derby, in 1940, Assistant Divisional Controller (Passenger Services) in 1941, and District Controller, Patricroft, in 1943. He was Acting District Controller, Willesden, from June to October, 1944, subsequently returning to Derby as Divisional Controller (Passenger Services) and, in 1948, becoming District Operating Manager. In 1951, he was appointed District Operating Superintendent at Rotherham, and, in 1956, Assistant Divisional Operating Superintendent, Derby. Mr. Aston was Vice-Chairman of the East Midland Section of the Institute of Transport, 1950-51, and Vice-Chairman of the Sheffield Section of that body for 1956. On the opening of the L.M.S. School of Transport in Derby in 1938 he was one of the first 50 students.

Mr. William Manson, Vice-President, Pacific Region, Canadian Pacific Railway for the past seven years, who, as recorded in our September 6 issue, has retired, has completed 48 years of service with the company. Mr. Manson began his career

*Mr. J. N. Fraine*

Appointed Vice-President, Pacific Region, Canadian Pacific Railway

*Mr. H. A. Gregorowski*

System Manager, Durban, Natal, S.A.R., 1950-57

*Mr. C. Rezelman*

Appointed System Manager, Durban, South African Railways

with the C.P.R. at Winnipeg in the Car Service Department in 1909. Early in 1923 he transferred to the General Superintendent's Office at Moose Jaw. He later became, successively, Trainmaster, Weyburn; Assistant Superintendent, Lethbridge, Winnipeg, and Calgary, and Superintendent at Nelson. From 1934 to 1936 he was Superintendent at Calgary, and served in this capacity at Regina from 1936 to 1942. In 1943 he became General Superintendent for the British Columbia district. In January, 1946, he was appointed Vice-President of Personnel at Montreal. In 1948, he became the company's chief officer in the Prairie Region and, in 1950, Vice-President at Vancouver. At the time of his retirement, Mr. Manson was also President of the Esquimalt & Nanaimo Railway, President & Director of O.K. Valley Freight Lines, a member of the board of the Pacific National Exhibition, a member of council of the Vancouver Board of Trade, and President of the Vancouver Club. An officer brother of the Order of St. John, he is also Honorary Vice-President of the St. John Council for British Columbia, Honorary Vice-President of the B.C. Division, Canadian Red Cross Society, and a member of the Advisory Board of the Salvation Army.

Mr. J. N. Fraine, General Manager of the Eastern Region of the Canadian Pacific Railway since November, 1955, who, as recorded in our September 6 issue, has been appointed Vice-President of the Pacific Region of that system, joined the C.P.R. as a signal fitter at Calgary in 1928. From that year and until graduation as a Bachelor of Science, he served during summer vacation periods. Mr. Fraine became Assistant Superintendent at Lethbridge in 1943, and later held similar positions at North Bay, Schreiber, and Toronto. In January, 1947, he was appointed Superintendent of the Laurentian Division in Montreal, and, until 1950, was also General Manager of the Quebec Central Railway, a C.P.R. subsidiary. In 1950, he became Assistant to the Vice-President in Montreal. From 1953 to 1955, Mr. Fraine was General Superintendent at Calgary.

Mr. Harold Addington Gregorowski, System Manager, Natal, South African Railways, who, as recorded in our August 16 issue, retired on August 18, after more than 42 years of service, joined the S.A.R. as a junior clerk at Bloemfontein in 1915. After serving at various stations on the Orange Free State, Cape Northern and Cape Western Systems, he became Welfare Officer in the System Manager's Office, Johannesburg, in 1928. Subsequent promotions were: Senior Clerk, Catering Department, Braamfontein (1931); Secretary to the Conciliation Board, Headquarters (1932); Private Secretary to General Manager (1935); Goods & Passenger Agent, Pietermaritzburg (1936); District Catering Manager, Braamfontein (1936); Superintendent (Parliamentary), Headquarters (1940); Superintendent (Staff) (1941); System Manager, Windhoek, South West Africa (1943); System Manager, Bloemfontein, Orange Free State (1945); System Manager, Cape Town (1948), and System Manager, Durban, Natal (1950).

Mr. C. Rezelman, System Manager, Port Elizabeth, South African Railways, who, as recorded in our August 16 issue, has been appointed System Manager, Durban, joined the S.A.R. in 1924. In 1943, after service in various parts of the Union, he was appointed to the General Manager's Staff Section at Railway Headquarters, Johannesburg. He became Secretary of the Railway Board in 1947 and Administrative Secretary to the Minister of Transport later in the same year. He was appointed Superintendent (Works) in the General Manager's Office, Johannesburg, in 1951, and a Relieving System Manager in 1953. He became System Manager, Port Elizabeth, two years later. Mr. Rezelman was on active service from 1940 to June, 1943. His special qualifications include a certificate to drive a railway trolley.

British Railways, London Midland Region, announces the following appointments:—

Mr. T. W. Killer to be Assistant (Telegraph & Telephones), Operating Officer's Office.

Mr. H. W. T. Young to be District Operating Superintendent, Crewe.

Mr. J. F. Parkhouse to be Assistant District Operating Superintendent, London (Western).

Mr. R. R. Butter to be Assistant District Traffic Superintendent, Carlisle.

Mr. J. B. Downes to be Assistant District Operating Superintendent, Rugby.

Mr. F. McNaughton to be Yardmaster, Carlisle.

Mr. W. E. Kynaston to be Works Accountant, Crewe.

Mr. R. M. Smith to be Parcels Agent, Manchester (Victoria, Exchange, Central, London Road, and Town Offices).

Mr. W. Durham to be Goods Agent, Liverpool, Huskisson.

Mr. A. Meir to be Parcels Agent, Birmingham, New Street.

Mr. Richard B. Bowler, A.M.Inst.T., has been appointed Stationmaster, Glasgow St. Enoch, Scottish Region, British Railways. Mr. Bowler entered the service of the former Great Northern Railway at Aslockton in 1914. After clerical service at various stations he became Stationmaster, Newthorpe, in 1930. Subsequently, he held Stationmaster's appointments at Rotherham, Broughton Lane, Retford, Norwich Thorpe and Leicester London Road.

Mr. L. L. Brown, District Traffic Superintendent, East African Railways & Harbours, has been appointed to the newly-created position of Regional Representative, Uganda. In his new capacity Mr. Brown will act as the Administration's representative in its dealings with the Uganda Government and the various commercial undertakings in Uganda. Mr. Brown will take up his new duties on September 23.

Dr. O. M. Solandt, Vice-President, Research & Development, Canadian National Railways, recently completed two-day discussions with the British Transport Commission, with particular reference to the fields of research organisation and electronic data processing. Before his discussions with the B.T.C., Dr. Solandt was a delegate to the first International Operational Research Conference at Oxford which was attended by representatives from 21 countries.

Mr. H. W. Cromack, previously Divisional Engineer (North), Country Buses & Coaches, London Transport Executive, has been appointed Divisional Engineer (South-East), Central Road Services, and becomes an officer of the Executive. Mr. Cromack, who is 51, began his apprenticeship with the London General Omnibus Company at Chiswick Works in 1922 and became a Senior Garage Engineer in 1940. In 1949 he was appointed District Engineer (North-West), Country Buses & Coaches, and became Executive Assistant to the Divisional Engineer (North-East), Central Road Services, in the following year. In 1953 he became Assistant Divisional Engineer (South-East), Central Road Services, and, in 1956, was appointed Divisional Engineer (North), Country Buses & Coaches, as a Principal Executive Assistant.

Colonel S. H. Bingham, Consulting Engineer of the U.S.A., has been on a brief visit to Europe during which he met officials of the Swedish State Railways for a test run of the prototype equipment forming the KLL train. He also undertook, on behalf of the Swedish State Railways, a study into the iron ore position. While in Europe, Colonel Bingham was in consultation with his associates, Sir William Halcrow & Partners, on projects in Canada and South America, before proceeding to France for discussions with Mr. Louis Armand, President of the S.N.C.F.

A. Reyrolle & Co. Ltd. has announced the appointment of Mr. W. B. Fenwick as General Works Manager in succession to the late Mr. T. McCulloch.

Mr. W. A. H. Watts, Managing Director of the P & M Co. (England) Ltd. is at present on a tour of South America.

Mr. G. F. Laurence has been appointed Personal Assistant to Mr. M. Goldsmith, Chairman & Managing Director of Metalastik Limited.

The British Tyre & Rubber Co. Ltd. states that Mr. E. N. Lowe, Senior Export Executive, is on a business tour of Canada.

Mr. Eric E. Jones, Group Commercial Director of the Solartron Electronic Group Limited, and Vice-President of Solartron Incorporated of Los Angeles, U.S.A., leaves this country by air on September 15, for a stay of some months in the United States.

Dr. L. G. Groves has been appointed Managing Director of Davy British Oxygen Limited and has relinquished his appointment on the board of British Oxygen Wimpey Limited.

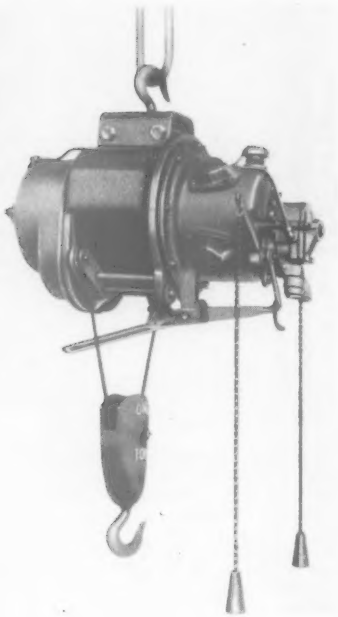
Mr. J. H. Rivers, Technical Director of Craven Brothers (Manchester) Limited, has retired from that position and from the board of the company for health reasons. He will remain available as engineering consultant and adviser.

Metal Industries Limited has announced that Mr. A. L. Mackenzie and Vice-Admiral Sir Frank Mason have been appointed directors of that company. Mr. G. D. Belsham has resigned his position as Managing Director of Brookhirst Switchgear Limited and has been appointed Technical Adviser to the Metal Industries Group.

Crompton Parkinson Limited has announced that Mr. H. Astbury, Chief Engineer, having reached normal retiring age, has relinquished his appointment which he has held since 1945. He will continue with the Company in an advisory capacity. He is succeeded by his deputy, Mr. W. A. McNeill.

The Northern Aluminium Co. Ltd. announces the following new appointments, in its Sales Department: Mr. E. D. Robinson formerly Assistant Manager, London Area, becomes Area Sales Manager, Manchester; Mr. M. Bridgewater, who has just completed a year's study at the Centre d'Etudes Industrielles, Geneva, becomes Manager, Sales Development Division, Banbury, with effect from September 30.

# NEW EQUIPMENT AND PROCESSES



## Air Powered Overhead Unit

THE size C air-driven, one-ton, overhead hoist is now in production in this country. A feature of the hoist is stated to be its smooth action, allowing operations to be performed with accuracy and without creeping.

The hoist is operated by chain and lever in conjunction with a spring-loaded, poppet-type throttle valve which gives a sensitive control at all speeds. When the air motor is reversed, a graduated reversing valve prevents snatch and ensures smooth motion.

The motor is of radial construction with four cylinders in 90-deg. horizontally opposed formation. The renewable cylinders are spigotted into the crank chamber, located on a flange and bolted down. Each piston has two rings, and is mounted on a one-piece drop-forged connecting rod. Only one crank pin is used and the bushings are renewable. The crank assembly is mounted on ball bearings.

The hoist drum is driven through enclosed spur reduction gears. Other features are an anti-friction bearing for the swivelling top hook, automatic safety stops, and an automatic brake.

The size C, which is illustrated, has a direct lifting capacity of one ton and a maximum lift of 15 ft. It measures 27⅝ in. wide by 38 in. long. The weight, inclusive of the top hook, is 355 lb.

An optional extra is a four-wheel trolley for mounting on an I-section beam. This replaces the top hook and increases the total weight by 35 lb.

Further details may be obtained from the manufacturer, Ingersoll-Rand Co. Ltd., 165, Queen Victoria Street, London, E.C.4.

## Germanium Rectifier Stacks

MEDIUM-POWER germanium rectifiers now form an alternative to selenium for many duties where a d.c. supply is required, such as the operation of auxiliary machines in a.c. motor coaches and various signalling duties in which transformer-rectifier units are used for battery-charging or the direct supply of current to machines and services. A range of standard germanium rectifier stacks has been introduced for operation up to a maximum ambient temperature of 55°C. The addition of cooling fins to a stack will increase the power-handling capabilities, the use of either finned or unfinned stacks for a specific application depending on cost and space considerations. The device is suitable for use in any type of power-rectifying circuit for single-phase, three-phase or hexaphase operation. Power requirements of up to about 30 kVA. are economically handled by finned units using series and parallel diode connections.

In the finned series each diode is mounted on a 4-in. square aluminium cooling fin, and in the unfinned series each diode is mounted on a small tinned steel mount. Both series are of spindle-type construction and are suitable for operation with either natural convection, forced air, or oil cooling. The rectifier unit is a p-n junction diode manufactured by an alloy process under carefully controlled conditions to ensure an extremely high standard of reliability.

The new rectifier stacks compare favourably in both weight and size with selenium type units of similar power ratings. A germanium rectifier stack for three-phase bridge operation and cooled by natural convection has a power/weight ratio of 1·6 kW. per lb. For an equivalent power output the germanium stacks occupy about 30 per cent of the volume of selenium types.

Unlike selenium rectifiers, there is no increase in forward resistance with life so that the need for additional transformer tappings, and the associated adjustments, to cater for this ageing effect is eliminated.

Full details of the rectifier stacks are obtainable from the manufacturer, the General Electric Co. Ltd., Magnet House, Kingsway, London, W.C2.

## Machine Cutting Fluid

A CLEAR soluble oil, named Kalsol, is non-rusting at a dilution of 80 to 1, and can be used for all processes requiring a soluble coolant and lubricant, at dilutions between 1 to 5 and 1 to 80.

Kalsol may be used to replace straight oils in general automatic work, and is then used at dilutions between 1 to 6 and 1 to 12, which can prove to be an economic proposition. A further advantage is that the product is unaffected by the hardness of the water used as a dilutent. It is supplied in 5-gal. and 40-gal. drums.

The price is 7s. 5d. and 6s. 11d. per gal. for each respective sized container. Delivery is 14 days. The manufacturer is K. Allan & Co. Ltd., Alanzol Refinery, Bream, near Lydney, Glos.

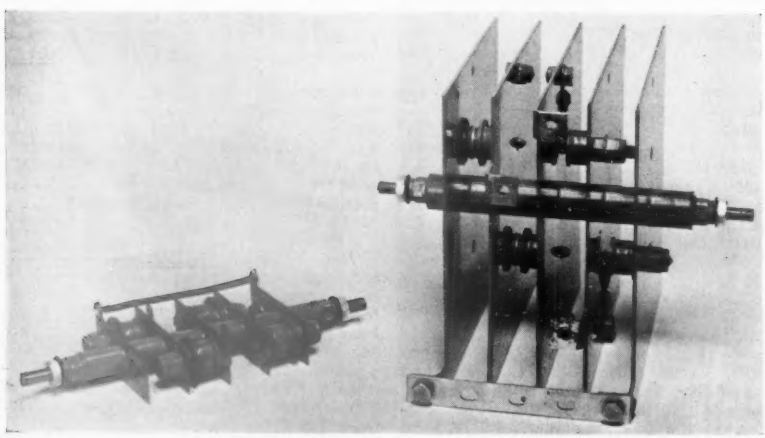
## Engine-Driven Welding Equipment

RECENT developments to the manufacturer's engine-driven welding equipment are announced. These include a 300-400 A. mobile plant, of application, for example, for track maintenance work, and a 300-400 A. stationary unit for use in works and similar locations.

The former product is an improved version of the Overlander which is powered by a Perkins P4 industrial diesel engine coupled to a Dynex generator. In addition to the facilities which it offers for welding purposes, the equipment is mounted on a special Flexitor type undercarriage giving independent springing to each wheel. The centre of gravity of the equipment is exceptionally low, while the track and wheel base are relatively wide, providing stability for work carried out in rough terrain.

The other unit is a single-operator type of equipment powered by an Armstrong Siddeley three-cylinder air-cooled engine. This set also incorporates a Dynex generator; the equipment has the special advantage of not requiring a radiator and water cooling system, thereby eliminating the possibility of freezing in low temperatures.

Full details of these welding sets may



be obtained from the manufacturer, Murex Welding Processes Limited, Waltham Cross, Herts.

## Prefabricated Partitioning

THE demand for removable and adaptable partitioning for offices and works is met by a system of prefabricated dry construction partitions, known as Compactitioning.

The maximum amount of prefabrication is done in the factory, leaving little to be done on the site, and there is none of the mess associated with other forms of building construction. It is possible to erect many hundreds of feet of partitioning in a day and when alterations are wanted they can be done easily.

The light weight of the method of construction has also particular advantages in old buildings where no other system of internal walling could be carried by the existing floors. Also, the reduced thickness of dry construction partitions compared to permanent walls saves space.

The Compactitioning system of partitioning is not limited, there being a choice of materials to suit varying requirements. There is also a wide range of finishes. Partitions can be solid throughout or with single or double glazing, and can be treated for sound insulation, sound absorption, or fire resistance. Structural members can be in timber or aluminium. They can be free standing or fixed from floor to ceiling.

All or any of these features can be combined into one complete scheme making them versatile. Each scheme is designed to meet the client's requirements, although a measure of standardisation is employed to keep costs to the minimum.

The illustration shows a recent installation of partitioning for factory gallery offices constructed with 1-in. Compactite composite panels with glazing above 4 ft. to a height of 9 ft. 9 in., and aluminium columns at 8 ft. centres.

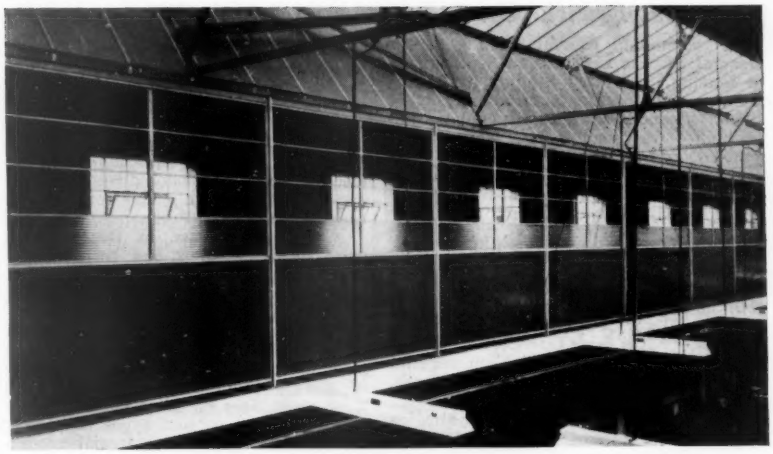
Further details may be obtained from the manufacturer, Compactom Limited, Oxgate Lane, Cricklewood, London, N.W.2.

## Facing Lathe

AN addition to the Ravensburg range of machine tools of application to railway engineering has recently been introduced. This is the Ravensburg KH 55 Facing Lathe which has a number of unusual features. Applications include such items as piston heads and cast-steel bogie pivots.

The machine has a sliding headstock to allow for awkwardly-shaped workpieces, all movements on the lathe being hydraulic. It can be arranged for constant cutting speed and is also fitted with an electronic-hydraulic copying attachment. The drive is by flange-mounted motor with star delta control and d.c. brake. The 12-speed headstock gearing is mounted on shafts carried in roller-bearings, and the final drive is through hardened and ground helical pinion and heat-treated external rim gear.

The rim gear is attached to the spindle nose permitting removal of the faceplate; the four-jaw faceplate is interchangeable. The headstock can be moved on the base relative to the carriage allowing compensation for different heights of workpieces, and the adjustment and locking of the headstock are hydraulic.



Headstock and carriage are on a common bed. The saddle and cross slide traverse are controlled by a hydraulic cylinder through a copying attachment. This attachment operates either as a pure copying device in conjunction with a tracer and template, or as an infinitely variable feed control in conjunction with positive controls.

The top slide can be delivered with an automatically indexing six-way drum stop, with a 2-in. adjustment; or with a traverse screw for 4-in. adjustment. With this feature it is also possible to perform profile turning by hand. The copying attachment consists essentially of a Unicop unit with special tracer and extra accessories.

Dimensions of lathe include: height of centres over vees, 25½ in., turning dia. over cross slide, 27½ in., maximum distance between faceplate and carriage, 31½ in., faceplate dia., 51 in., and height of centres above the floor level, 41⅛ in. The power required for drive is 27-32 h.p. at approximately 1,500 r.p.m. The net weight of the machine is some 11½ tons.

Price and delivery details are available on application to the distributors in this country, the Mortimer Engineering Company, 210, Acton Lane, Harlesden, London, N.W.10.

## Lubricant for Free Piston Engines

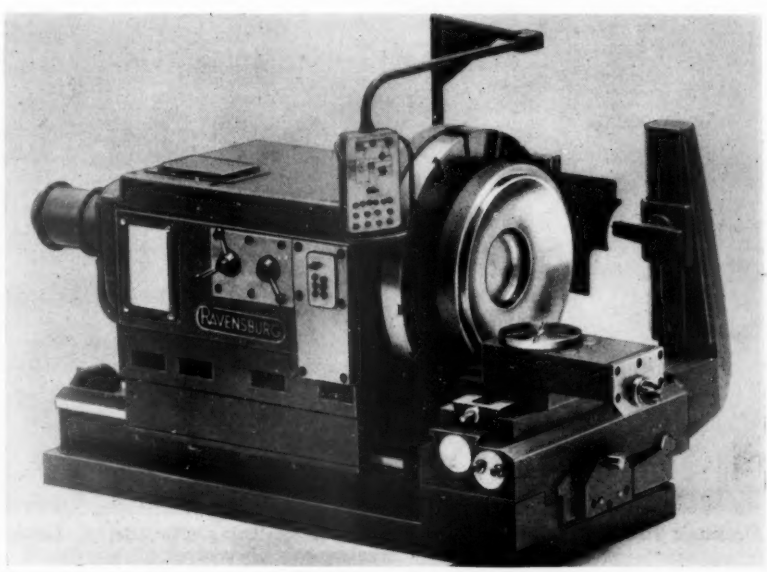
A SPECIAL lubricant for free piston gasifiers, Shell free piston engine oil, has been developed.

Earlier experience in the operation of free piston gasifiers revealed that cylinder and piston ring wear rates and cylinder and piston cleanliness were unsatisfactory problems that were traced to the limitations of the type of lubricating oil used for the diesel cylinder.

Various lubricants were tested and the best subjected to a 500-hr. endurance test at the conclusion of which a marked improvement both to cylinder wear and cleanliness were observed. Subsequent trials on the same grade of oil produced similar results, including a decided decrease in transfer valve deposits.

Concurrently with the trials by S.I.G.M.A. in France, experiments were carried out by General Motors in the U.S.A. on a GS 34 unit, and the experience gained resulted in the development of the lubricant.

Full details of the Shell free piston engine oil may be obtained from Shell-Mex & B.P. Limited, Shell-Mex House, Strand, W.C.2.



## General Electric Co. Ltd.

At the annual general meeting of the General Electric Co. Ltd. on September 5 in London, Sir Harry Railing, the Chairman, commenting on the accounts for the 1956-57 financial year, emphasised the impossibility of maintaining the trading margins of the previous year—a fact apparent throughout the electrical industry—mainly caused by inflation as the result of pay advances, which during the past three years cost G.E.C. alone some £4 million. Adding to the trading difficulties were the credit restrictions, the increase in purchase tax and rising competition from other countries with lower taxation, lower wages or easier credit facilities. "It is more than ever essential," he declared "that we should keep our lead in the new fields based on our research, technical skill and engineering experience."

The board had decided to allocate, in respect of the holding company, £500,000 to reserve for increased cost of plant replacement and £500,000 to reserve against future stock depreciation. A final dividend of 8 per cent had been recommended, making 12½ per cent for the year amounting to £1,293,750 on the increased ordinary capital of £18,000,000, against a 14 per cent dividend on a lower capital of £13,714,680 last year amounting to £1,104,032. In fact, £189,718 more had been paid in dividends by the company. The new capital raised by the company had been in use for only four months during the past financial year.

### Railway Orders

The traction department had received large orders arising from the railway modernisation scheme of the British Transport Commission. The traction business of the company was continually expanding and put it in a position to take its share of the rising home and foreign demand for railway electrification.

The electrical equipment for the first 57 three-coach trains for the Euston-Watford lines was nearing completion. During the year orders had been received for power equipment for 10 800-h.p. diesel-electric locomotives, 38 1,000-h.p. diesel-electric locomotives (the mechanical parts of which were being built by the North British Locomotive Company), 10 25-kV. single-phase a.c. mixed-traffic electric locomotives, 71 25-kV. single-phase power equipments for multiple-unit three-car trains, 40 power equipments for diesel-electric shunting locomotives, and the complete power equipment for five high-speed diesel-electric Pullman de luxe trains.

A further increase in the output of mercury arc rectifiers had been achieved. Some 38,000 kW. of plant had been installed at home, of which 27,500 kW. were for the frequency conversion scheme of the Southern Region of British Railways. The company had now been entrusted with the order for 85,000 kW. of similar rectifier sub-stations for the Kent coast lines of the Southern Region.

Development of new types of mercury arc rectifiers to meet the special needs of the railways and other industrial users continued. Advanced types of germanium rectifiers for power purposes were now in production and in industrial use.

The report and accounts were adopted.

## Freight by Road

Mr. J. H. Brebner, Public Relations Adviser to the British Transport Commission, has replied, in a letter published in the September 14 issue of *The Manchester Guardian*, to a letter from Mr. R. Morton Mitchell, Chief Executive Officer, Road Haulage Association Limited, appearing in the September 12 issue of that journal.

Mr. Morton Mitchell, he points out, puts forward a completely fallacious argument when he suggests that "the road haulage operator offers lower charges than the railways . . . because he is in competition with other hauliers . . . he is part of a competitive free enterprise system and not a State-owned transport monopoly."

"The first point," Mr. Brebner states, "is that not all road transport charges are necessarily lower than rail; there are many cases where railways, as the more suitable and more economic medium for particular traffics, are able to quote lower rates.

"Secondly, so far from being a 'monopoly,' the whole of the transport activities of the Commission when added together represent less than one-third of the total transport activity of the country. Surely nobody should be better aware than Mr. Mitchell that one of the objects of the Transport Act, 1953, was to encourage competition in transport, and that in accordance with its provisions some 20,000 nationally-owned road haulage vehicles have been sold to private enterprise."

As regards the comparison drawn in a letter from Mr. H. Silvester in the September 12 issue of *The Manchester Guardian* between the cost of the railway modernisation plan and expenditure on roads, Mr. Brebner draws attention to paragraph 256 of the B.T.C. annual report for 1956; this points out that "the average planned expenditure on improvements to railway track, tunnels, bridges, etc., and on signalling—as distinct from capital expenditure on rolling stock, electrification and terminals—under the Modernisation Plan is only £14 million a year; if comparisons between expenditure on improved roads and on improved railway track can be useful or helpful, it is the figure of £14 million a year, which should be compared with expenditure on roads." Mr. Silvester had quoted the latter figure at £44 million a year.

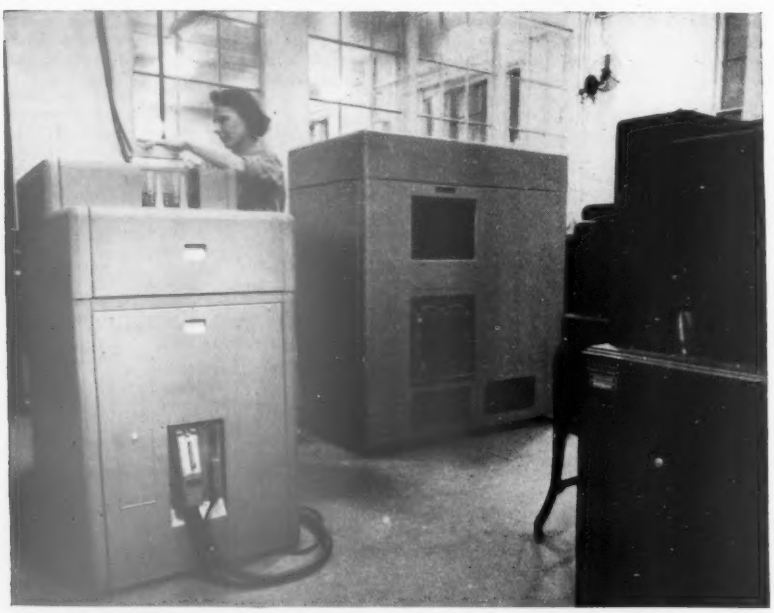
## Electronic Calculator at Derby

A new electronic calculator, which has been installed by British Railways, London Midland Region, at the Derby Works Accountant's office, is the first of its kind to be used on British Railways. It adds, subtracts, multiplies, divides, and provides, through a punch card system, rapid and accurate information on the issue, receipt, costs, and movement of stores, and simplifies the task of inventory control at the Derby Locomotive Works and Carriage & Wagon Works. This machine, a Hollerith "550," marks a further step in the mechanisation of accountancy being carried out by the London Midland Region as part of its modernisation scheme.

### Inventory Control

Inventory control, which is a major job at the works, covers the control of all stores holdings by both quality and value, ensuring that stores items are immediately available without the undesirable necessity of carrying large stocks. Derby Stores deals with 60,000 different items needed for the building and repair of locomotives, carriages and wagons. They range from an upholstery tack to a quarter-ton steel casting or a complete diesel power unit—varying in unit value from a fraction of a penny to several thousands of pounds.

There are some 3,000 stores movements daily at Derby, each one of which affects the inventory both in quantity and value. The new electronic machine will supply accurate and timely statistical information, performing as a matter of daily routine the calculations necessary for the adjustment of inventory records, resulting from stock issues and receipts.



*Electronic calculator installed in the Works Accountant's office, Derby, London Midland Region, for inventory control purposes*

It will be increasingly useful in the period of reorganisation at these two great works, caused by the growth of diesel and electric traction and the modernisation of rolling stock.

## Opening of Darlington Diesel Maintenance Depot

The official opening of the diesel railcar maintenance depot at Darlington, North Eastern Region, took place on September 17. The ceremony was performed by Mr. G. R. H. Nugent, Parliamentary Secretary to the Minister of Transport & Civil Aviation. He later inspected the depot, accompanied by the Mayor of Darlington, Councillor L. G. Turner; Sir Fergus Graham, M.P. for Darlington; Mr. T. H. Summerson, Chairman of the North Eastern Area Board, and other members of the North Eastern Area Board; Mr. H. A. Short, General Manager, North Eastern Region; Regional officers, and representatives of the principal industries in the area.

The depot forms part of the main Darlington motive power depot, situated on the opposite side of the main line, and is under the supervision of the present Shedmaster, Mr. J. Wandless, assisted by Mr. A. Peak, who is located at the diesel depot.

### Layout of Depot

Besides the running shed, the depot consists of a totally enclosed repair shop, a two-way carriage washing plant, an area for cleaning, a stores area, and staff accommodation with all modern amenities.

Services now being operated by diesel railcars which are being serviced at the depot include the interval service between Darlington and Saltburn, and some of the branch lines from Darlington to Barnard Castle and Middleton-in-Teesdale, to Bishop Auckland and Durham, to Bishop Auckland and Crook, and also to Richmond. A map and description of these services in the Darlington area as well as other areas in the Region, appeared in our issue of May 11, 1956. When all the proposed diesel services in the Darlington area are in full operation, some 130 vehicles will be in service.

## Dartmouth Ferries Historical Associations Revived

A ceremony took place at Dartmouth on March 18 last at which two new ferry boats, the *Humphrey Gilbert* and *Adrian Gilbert*, named after the famous half-brothers of Sir Walter Raleigh, were placed by the Western Region of British Railways on the Kingswear-Dartmouth service.

Commander Walter Raleigh Gilbert, of Compton Castle, High Sheriff of Devon, the direct descendant of Sir Humphrey, has presented to British Railways for the *Humphrey Gilbert* a print of the engraving of Sir Humphrey which was published in 1620, and for the *Adrian Gilbert* a print of a drawing of Compton Castle, South Devon, which had been the Gilbert home for 300 years when Adrian lived there and is so to this day. Sir Humphrey Gilbert took possession of Newfoundland in 1583, and Adrian was the first to seek the North-West Passage.

The presentations were made on September 9, in the presence of members of the South Devon branch of the English-Speaking Union, by Commander and Mrs. Gilbert at a ceremony at Kingswear, after a reception at Compton Castle. The pictures were received by Mr. R. F. Hanks, Chairman of the Western Area Board, who was accompanied by Mr. K. W. C. Grand, General Manager of the Western Region.

The accompanying illustration shows, on board the *Humphrey Gilbert* (left to right): Mrs. Gilbert; the Mayor and Mayoress of Dartmouth (Councillor and Mrs. Norman Hewson); Commander Gilbert; Mr. R. F. Hanks; Commander Sir Reginald Leeds, President of the South Devon Branch (Dartmouth Group) of the English Speaking Union; Councillor W. Lionel Fairweather (Chairman, Parish Council, Kingswear).

At the same time, the framed print of a drawing of Compton Castle was presented for display in the sister ferry boat *Adrian Gilbert*.

## Mechanised Ticket Office at Southend

The scheme for the modernisation of Southend-on-Sea (Central) Station, Eastern Region, has now been completed, at a cost of £24,000. Work on various parts of the station has been undertaken to provide the users of the former London, Tilbury and Southend line services with improved facilities. These improvements have included the provision of a glass fronted ticket office including a small messroom for ticket and parcels office staff, the rearrangement of the up parcels and left luggage office and a new cycle store, and the extension and rebuilding of the refreshment/waiting room.

The ticket office with three ticket windows is the first on British Railways to be designed for completely mechanised ticket issuing and to be fitted with standard steel furniture and equipment designed specially for the purpose.

This equipment includes a Multiprinter, a Flexiprinter, and a Handiprinter, all of which are printing, issuing and accounting machines. Examples of machines and furniture were seen at the Modern Travel Exhibition, held at Battersea in June.

The erection of a police office and a staff room for porters and shunters, improvements of existing staff rooms and the construction of a new platform barrier and redesigned ticket collectors' boxes has also been carried out. Electric lighting has been substituted for gas throughout the station premises; the general arrangement being cold cathode fittings on the platforms and in the booking hall, refreshment room and waiting rooms, with fluorescent lighting elsewhere.

The modernised station buildings were designed by Mr. H. H. Powell, Architect, Eastern Region, under the general direction of Mr. A. K. Terris, Chief Civil Engineer. The main contractor was Hosking & Son (Essex) Ltd., Rayleigh, Essex.

## Staff and Labour Matters

### Railway Pay Claim

A claim for a substantial increase in pay for railway workers has been made by the National Union of Railwaymen to the British Transport Commission and it is understood a separate claim in respect of railway workshop staff is being considered by the union in consultation with the Confederation of Shipbuilding & Engineering Unions. The Commission has already had a request from the T.S.S.A. for a review of the pay of its members.

The last increase in pay for staff employed on British Railways was one of 5 per cent operative from March 4, 1957.

ALDERSHOT & DISTRICT TRACTION CO. LTD. —At the annual meeting of the Aldershot & District Traction Co. Ltd., on September 9, Mr. T. Robert Williams, the Chairman, stated that the year ended May 31 last had been difficult. The summer of 1956 was inclement and the fuel rationing later in the year affected traffics. Revenue for the year increased by £40,000 but expenses rose by a similar amount. The strike of provincial bus employees in July had not improved relations between the staff and the public, and it was the first time that the company had had such a stoppage.

*Commander W. R. Gilbert making the presentation to Mr. R. F. Hanks on board the "Humphrey Gilbert"*

# Contracts and Tenders

*Refrigerated wagons for New Zealand: transformer wagons for Rhodesia*

The Metropolitan-Cammell Carriage & Wagon Co. Ltd. has received an order from the New Zealand Government Railways for 100 refrigerated wagon bodies and underframes of "VS" type.

The Commonwealth Engineering Queensland Pty. Ltd. has obtained a contract for the supply of 100 refrigerated wagons for the New Zealand Government Railways. The contract is valued at £700,000. It is understood that the company's tender was not the lowest submitted, but was accepted because early delivery was offered, the wagons being required in time for the dairy export season. The first wagon is to be delivered at the beginning of December.

A contract has been awarded to Head Wrightson Teesdale Limited, a subsidiary of Head Wrightson & Co. Ltd., for the supply of two 102-ton transformer wagons for 3-ft. 6-in. gauge. The order has been given by the Federal Power Board and the wagons will be used for carrying English Electric and Ferranti transformers, and other special loads, from Beira to the site of the new Kariba hydro-electric scheme in the Federation of Rhodesia & Nyasaland. The well-type beams on these wagons can be replaced by straight high-side beams when special loads are to be carried. Because of restriction of the axleload to 15 tons, the bogies are of a special design with five axles to each bogie.

Waggonfabrik Talbot has received an order for 20 bogie benzine tank wagons for the Sudan Railways.

OM, S.p.A., of Milan, has received an order from the Italian State Railways for 38 diesel railcars of 420 b.h.p., and for 28 bogie control trailers. Each car is to have two Saurer-O.M. engines, and Lysholm-O.M. hydro-mechanical transmission.

The Jenbacher-Werke, of Jenbach, Austria, has received from the Jugoslav State Railways an order for a number of three-axle 400 b.h.p. diesel-hydraulic shunting locomotives, to be equipped with Jenbach two-stroke oil engines and the Voith form of transmission.

British Railways, North Eastern Region, have placed the following contracts:

H. Pickup Limited, Scarborough: cold water supply, Hull George Street Offices

E. Hood, York: builders' work, York Carriage & Wagon Works

A. Herbert Limited, Coventry: No. 7 pre-optive combination turret lathe, Darlington Locomotive Works

British Timken Limited, Northampton: five hydraulic press units

Wm. Mason & Co. Ltd., Leeds: alterations, Regional Work Study School, Harrogate

Tarslag Limited, Stockton-on-Tees: Orlit framework, foundations, and so on, Thornaby Motive Power Depot

Haddon & Hillman Limited, Newcastle: provision of inspection pit, ducts and drainage, Blaydon Motive Power Depot.

The Director-General, India Store Department, Government Building, Bromyard Avenue, W.3, invites tenders for the supply of cast steel axlebox housings for coaching stock. See Official Notices on page 348.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from Australia for motor and trailer cars as follows:—

90 2nd class motor cars, complete
90 1st class trailer cars, complete
30 2nd class trailer cars, complete
or alternatively
90 2nd class motor car bodies
90 1st class trailer car bodies
30 2nd class trailer car bodies
and
180 motor car bogies, complete
240 trailer car bogies, complete.

The issuing authority is Victorian Railways, and the tender is No. 61,214. Bids should be sent to the Secretary, Victorian Railways, Railways Administrative Offices, Melbourne, C.1. The closing date is January 15, 1958. A copy of the tender documents (but not drawings) is available for loan to United Kingdom firms in order of receipt of applications by the Branch (Lacon House, Theobalds Road, W.C.1). The reference ESB/21841/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from Australia for 400 sets of wheel and axle assemblies to relevant Victorian Railways drawings and as specified. The issuing authority is the Victorian Railways, and the tender number is 61,215. Bids should be sent to the Secretary for Victorian Railways, Melbourne, C.1. The closing date is October 9, 1957. A copy of the tender documents (including specifications but not drawings), is available for loan to United Kingdom firms in order of receipt of applications by the Branch (Lacon House, Theobalds Road, W.C.1). A photo-copy set can be purchased from the Branch for 5s. Cheques and postal orders should be made payable to the Principal Accountant, Board of Trade. The reference ESB/21842/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from India for firebox plates as follows:—

*Item A*/1
6 firebox backplate, inner, steel for AWG to Drg. No. AWC/2/3 (D.G.I. & S. No. 3046/1) without holes, drilled to I.R.S. Specn. No. R29/50 with addm. No. 1 of 1/52. Class & P.L. No. EA1/BL-1284

*Item A*/2
39 throatplate diaphragm, steel, for thermice syphon WG/WP to CS. Drg. No. 2395, Alt. Nil, and to I.R.S. Specn. No. R-29-50 with addm. No. 1 of 1/52. Class & P.L. No. BL-1314

*Item A*/3
2 firebox backplate, inner, steel, for HPS (new boiler) to Con. E. Drg. No. 10329/261 (D.G.S. & D. No. 13933). Letter "E," to I.R.S. Specn. R29/50 with addm. No. 1 of 1/52. Class & P.L. No. BL-1373

*Item A*/4
4 firebox backplate, inner, steel, for HT (spare new boiler), to Con. E. Drg. No. U.7482/191 (D.G.S. & D. No. 12272), Item E Specn., not R21 as shown on Drg. to I.R.S. Specn. R/29/50 with addm. No. 1 of 1/52. Class & P.L. No. BL-1374

*Item B*/1
25 plate steel firebox back boiler for MAWD locos. to N.E. Rly. Drg. No. ML/1-310, alt. Nil (D.G.S. & D. No. 11693) and I.R.S. Specn. No. R.29/50 with addm. No. 1 of 1/52. Class & P.L. No. EA1/P/3722

*Item B*/2
25 plates, steel, firebox tube, flange, without flue holes, drilled for MAWD locos. to N.E. Drg. No. ML/1-316, alt. Nil (D.G.S. & D. No. 11692) and Specn. No. R-29/50 with addm. No. 1 of 1/52. Class & P.L. No. P/4388

The issuing authority is the Director-General of Supplies & Disposals, and the tender P/SW2/18148-H/IV. Bids should be sent to the Director-General of Supplies & Disposals, Shahjahan Road, New Delhi. The closing date is September 25, 1957. A set of tender documents, including drawings but not specifications, is available for loan to United Kingdom firms in order of receipt of applications by the Branch (Lacon House, Theobalds Road, W.C.1). The reference ESB/21962/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from India for superheater elements as follows:—

105 class EAI/SX-2225 superheater element minor assembly 2nd. row to letter "B" of Con. Eng.Drg. No. E/SL-131/58 (D.G.S. & D. No. 11192) to I.R.S. Specn. Nos. R32/54&R23/51

2 EAI/1923G headers, C.I. superheater multiple valve type complete with valves, valve seats, covers, camshaft gland & stuffing box XF class to superheater COS Drg. No. LA 15440.

The issuing authority is the Director-General of Supplies and Disposals, and the tender number P/SW2/18215-H/1. Bids should be sent to the Director-General of Supplies and Disposals, Shahjahan Road, New Delhi. The closing date is October 9, 1957. A set of tender documents, including Drawing No. E/SL-131/58 but excluding specification, is available for loan to United Kingdom firms in order of receipt of applications by the Branch (Lacon House, Theobalds Road, W.C.1). The reference ESB/21981/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from India for ball couplings as follows:—

992 ball coupling (Loco) for standard Loco complete with all parts shown on Drgs., to I.R.S. Drg. No. VBA-95-ALT.1 and to I.R.S. Specn. R-3/53.

The issuing authority is the Director-General of Supplies and Disposals, and the tender number SRIA/17537-H/II. Bids should be sent to the Director General of Supplies and Disposals, Shahjahan Road, New Delhi. The closing date is September 25, 1957. A set of tender documents is available for loan to United Kingdom firms in order of receipt of applications by the Branch (Lacon House, Theobalds Road, W.C.1). A photo-copy set can be

purchased from the Branch for 10s. Cheques and postal orders should be made payable to the Principal Accountant, Board of Trade. The reference ESB/21987/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from South Africa for relays for signalling purposes as follows:—

800 relays point contactor, to S.A.R. specification CSE.24/2

300 relays 2-element 24/110 V. d.c. 6.F. 4.B. to S.A.R. specification CSE.30B/2

100 relays line 110 V. a.c. 20F. 4B., to S.A.R. specification CSE.28H/2

600 relays line 110 V. a.c. 6F. 6B. to S.A.R. specification CSE.28H/2

600 relays track 2F. 2B. a.c. to S.A.R. specification CSE.28G/2

200 relays track 6F. 2B. a.c. to S.A.R. specification CSE.28G/2

750 relays line 110 V. a.c. 10F. 2B. to S.A.R. specification CSE.28H/2

250 relays 3-position 8N. 8R. to S.A.R. specification CSE.28G/2

400 relays 2-position 6F. 6B. (slow release) to S.A.R. specification CSE. 28F/3

400 relays line 24V. d.c. 10F. 2B. to S.A.R. specification CSE.30A/2

500 relays line 24V. d.c. 6F. 6B. to S.A.R. specification CSE.30A/2

250 relays line 24V. d.c. 20F. 4B. to S.A.R. specification CSE.30A/2

400 relays line 24V. d.c. 12F. 12B. to S.A.R. specification CSE.30A/2

50 relays earth detection to S.A.R. specification CSE.31/2

570 relays secondary 6F. 3B. 24V. minimum resistance 500 ohms but preferably higher to S.A.R. specification CSE.35/6

160 relays time element 24V. (motorised) to S.A.R. specification CSE.28J.

400 relays interlocked normal 10F. 2B. reverse 10F. 2B. 24V. to S.A.R. specification CSE.30C/3

300 relays interlocked normal 8F. 3B reverse 8F. 3B. 24V. to S.A.R. specification CSE.30C/3

100 relays a.c. 2-position 4F. 4B (slow release) to S.A.R. specification CSE. 28C/2

100 relays line a.c. 6F. 2B. to S.A.R. specification CS.E28/4

450 relays track a.c. 6F. 2B. to S.A.R. specification CSE.28/4.

The issuing authority is the Stores Department, South African Railways, and bids should be sent in sealed envelopes, endorsed "Tender No. C. 6776: Electrical Signalling Material (Relays)" to the chairman of the Tender Board, South African Railways, P.O. Box 7784, Johannesburg. The closing date is October 4, 1957.

A copy of the tender documents and specification is available for loan to United Kingdom firms, in order of application, from the Branch (Lacon House, Theobalds Road, W.C.1). The reference ESB/21704/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from the Administracion Nacional de Combustibles Alcohol y Portland, Uruguay, for cement storage, bagging, and delivery plant and for railway wagons for the carriage of cement in bulk. Full details are available from the Branch (Lacon House, Theobalds Road, W.C.1) but specifications are in Spanish. The reference ESB/22072/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call from the Federation of Rhodesia & Nyasaland for a diesel shunting locomotive. The requirements are as follows:—

> One complete diesel-engine locomotive capable of safe and effective working when hauling up to six fully loaded standard Rhodesia Railways double-bogie wagons, of gross weight, excluding the locomotive, 580 tons, on any part of the railway sidings, at the Salisbury Municipal power station. The track is of 3-ft. 6-in. gauge, constructed to Rhodesia Railway standards. Gradients are limited to 1:120 where the radius of curvature is not less than 370 ft. At turn-offs, short lengths of track having a radius of curvature of 200 ft. will need to be negotiated by the locomotive in service when hauling trucks as specified above. Particular attention should be paid to the design of the axle thrust bearings as the locomotive will be required to work constantly on a curved track.
>
> The locomotive shall be capable of exerting a tractive effort of at least 18,000 lb. when starting and at rail speeds of up to 2½ m.p.h. At a rail speed of 10 m.p.h. the locomotive shall be capable of exerting a tractive effort of at least 4,500 lb.

The issuing authority is the Electricity Department, City of Salisbury, and the tender is "Specification No. E.227." Bids should be sent to the Town Clerk, City of Salisbury, P.O. Box 990, Salisbury, Southern Rhodesia. The closing date is November 12, 1957. A copy of the tender documents is available for loan to United Kingdom firms from the Branch (Lacon House, Theobalds Road, W.C.1). The reference ESB/22355/57 should be quoted in any correspondence with the Branch.

## Notes and News

**N.E. Region Station Gardens Competition.**—In the North Eastern Region 1957 station gardens competition six stations have qualified for special class prizes: Acklington, Beverley, Middleton-in-Teesdale, Riding Mill, Stocksfield and Wetheral. First class awards were given to 21 stations, second class prizes were won by 53, and third class by 97 stations; 10 certificates of commendation also were given.

**London Midland Region Timetable Alterations.**—Since the winter timetable books and sheets were printed, it has been decided that the alteration in the starting time of the up "Midday Scot" from 1.30 to 3 p.m. out of Glasgow Central, operative since June 17 last, has not met with sufficient public favour to justify continuance. By special notice, therefore, this train reverted on Monday last to its 1.30 p.m. departure, and with stops at Carlisle and Crewe, now reaches Euston at 9 p.m., as formerly. Another development by special notice is the re-opening for passenger traffic of Marchington station, between Uttoxeter and Tutbury on the Crewe-Derby line; five eastbound and six westbound trains of the new diesel multiple-unit service call at Marchington daily. The 11.15 a.m. diesel train from Crewe, which makes a mile-a-minute run from Chester to Prestatyn, is further accelerated by the omission of the Abergele and Deganwy stops to reach Llandudno at 12.55 p.m.

**Thielenhaus Microfinishing Machines.**—Wickman Limited announces the recent appointment of the firm as sole agents in the United Kingdom for the range of microfinishing machines manufactured by Maschinenfabrik Ernst Thielenhaus, Wuppertal-Barmen, Germany,

**Permali Limited Issue Success.**—Shareholders and loan stockholders took up 883,975 of the 1,040,000 ordinary 2s. shares in Permali Limited offered at 3s. 6d. each. Supplementary applications were received for 236,010 excess shares. Applications for up to 1,000 shares were allotted in full and larger applications scaled down.

**Closings of Branches and Stations.**—The London Midland Region has announced that the Trentham Gardens Branch line, which is only open for summer excursion traffic, will be permanently closed on October 1, and that the passenger train service to Great Harwood, Simonstone and Padiham, between Blackburn and Rose Grove, will be permanently withdrawn on October 7.

**Costa Rica Railway Co. Ltd.**—Pending audit of the accounts for 1956-57, a payment from the profits of the Costa Rica Railway Co. Ltd. for that year is to be made on October 1 of 3¼ per cent in respect of interest on the 6⅛ per cent second debentures. This payment is on account of arrears for the year to June 30, 1943. After audit of the accounts, a further payment is likely to be made in 1958.

**East Coast Route Anglo-Scottish Passenger Survey.**—British Railways are anxious that main services on the East Coast route between London and Scotland should meet the requirements of passengers as far as possible, and with this in mind the Eastern, North Eastern, and Scottish Regions are conducting this week a customer survey on all Anglo-Scottish day trains. During the week selected railway staff are travelling on all day trains and by means of a questionnaire and personal interview are ascertaining from passengers their opinions on the pattern of the train service on the East Coast main line. Passengers are being asked about all aspects of their journeys and whether they have any suggestions to make regarding the train service. They are also being asked for their views concerning meals on trains.

**Inaugural Run of the "Fair Maid."**—The new East Coast express, the "Fair Maid," named after the Waverley novel, "The Fair Maid of Perth," left Kings Cross at 7.50 a.m. last Monday on her inaugural run to Perth. This train provides an early morning service in both directions on weekdays, except Saturdays, between London and Perth—441 miles. In the up direction, the train leaves Perth at 6.40 a.m., Edinburgh at 8.30 a.m., and reaches Kings Cross at 3.20 p.m. The down inaugural train left on time behind No. 60015 *Quicksilver*, a Gresley "A.4" Pacific, driven by Driver F. J. Coe of Kings Cross. Darlington, the first stop, was reached at 11.44½ a.m., 2½ min. late, but the "Fair Maid" reached Newcastle at 12.26 p.m. with 1 min. in hand. After rather a slow change of locomotives, the train left 1 min. late behind No. 60027

*Merlin*, another "A.4," and was 3 min. late at Berwick. By the time Dunbar was reached, 2 min. had been regained and the train stopped in Edinburgh Waverley 15 sec. early at 2.35¼ p.m. The "Fair Maid" reached Perth on time at 4.18 p.m. In the up direction the corresponding train, which passed the down train near Eryholme at 11.37 a.m., was 1 min. late.

**Collision at Doncaster.**—At 3.33 p.m. on September 14, the 12.20 p.m. Kings Cross-Bradford passenger train collided with the rear of the 10.5 a.m. Yarmouth-York train as it was leaving No. 5 platform at Doncaster Central station. Passengers in both trains were severely shaken and 43 were treated for shock or bruises. Seven passengers were taken to Doncaster Infirmary but five of these were released almost at once and another later the same evening.

**Liverpool Overhead Distribution.**—Shareholders of the Liverpool Overhead Railway Company may receive nearer £4 than £3 on the £10 ordinary shares and nearer £3 10s. that £3 on the preference shares. This is indicated in a letter circulated by the Chairman, Lieut.-Colonel A. Buckley. The work of demolition of the railway should be completed by November, 1958. The last meeting of the company will be held on September 30 to appoint liquidators.

**Heriot-Watt College; Course on Railway Electrification and Diesel Traction.**—An advanced course on railway electrification and diesel traction will be given in the Heriot-Watt College, Edinburgh, on six successive Saturday mornings from October 19 from 9.30 a.m. to 12 noon, the fee for which is two guineas. The lecturers will be Mr. A. H. Bloomer, English Electric Co. Ltd., Bradford; Mr. J. A. Broaghall, British Transport Commission; Mr. W. B. G. Collis, British Thomson-Houston Co., Ltd., Rugby; Mr. J. L. Egginton, South of Scotland Electricity Board, Glasgow; Mr. F. B. Kitchen, British Insulated Callender's Cables Limited, Kirby; Mr. O. L. Robson, Bruce Peebles & Co. Ltd., Edinburgh; Dr. M. G Say, and Mr. E. O. Taylor, Heriot-Watt College, Edinburgh.

**The "Cathedrals Express."**—A name was given for the first time on the Paddington-Oxford-Worcester-Hereford service last Monday. Now called the "Cathedrals Express," the 7.45 a.m. Hereford to Paddington weekday train, which returns at 4.45 p.m. from Paddington to Hereford, will resemble other Western Region named trains in being formed with coaches specially painted in the former Great Western Railway chocolate and cream livery.

**Davey, Paxman at the Engineering Exhibition.**—At the recent Engineering, Marine, Welding & Nuclear Energy Exhibition, Davey, Paxman & Co. Ltd., in collaboration with their associates, Ruston & Hornsby Limited, exhibited on the combined Ruston-Paxman stand four engines chosen from their 7-in. and 9½-in. bore series, covering a power range of 100 to 2,000 b.h.p. Four-, eight- and 16-cylinder versions of the 7-in. bore range were seen. The one example of the 9½-in. bore range was the 12YLCM unit which has a power output of 1,575 b.h.p. at 1,000 r.p.m.; this engine is both intercooled and pressure charged.

**Fire Retardant.**—At a demonstration held on September 17 before an audience including an officer of the London Fire Brigade, who acted as official timekeeper, two wooden huts were burnt. One was untreated, and was gutted in 2½ min. The other, which had been coated inside and out with the latest development of Dohm Fireseal, lasted 15½ min. Dohm Fireseal is a liquid ceramic coating which forms a barricade against the spread of fire on inflammable building materials. The product, applied by brush or spray, dries to a white matt finish which can take decoration and which will stand up to knocks and thermal blasts and shocks. It can be used on timber, cork, plywood, hardboard, insulation board, acoustic tiles, and floorboard. If used outdoors, a top-coat of Dohm Can-Tile should be added to afford protection against weather. Treated surfaces can be washed by hosing. One gal. provides one coat over 28-35 sq. yd. of timber or building board (all the timber structure of a normal-size house). The National Coal Board in 1954 coated large numbers of pit-props with Dohm Fireseal and subsequently inspected these at three-monthly intervals with satisfactory results. The cost ex-works of one-gal. can is 68s. Five-gallon drums at 67s. a gal. are delivered free. Manufacturers are Dohm Limited, 167, Victoria Street, London, S.W.1.

**Wagon Repairs Limited Results.**—In the year ended March 31, Wagon Repairs Limited repaired more than 650,000 railway wagons and tank wagons. There was an increasing proportion of work on all-steel wagons and privately owned tank wagons carrying oil, petrol, bitumen, and liquid chemicals traffic. The group trading balance rose to £794,030, compared with £698,336 for 1955-56. Net profits, after tax of £461,750 (£383,350), were £256,902 (£246,054). An ordinary dividend of 20 per cent is recommended.

**Three-car, 600-h.p. Diesel Sets for Crewe-Derby Services.**—The London Midland Region introduced on Monday, September 16, an improved service between Crewe and Derby via Stoke. This service will be operated by three-car, 600-h.p. diesel railcar sets built by the Birmingham Carriage & Wagon Co. Ltd. in association with the Drewry Car Co. Ltd., described in our issue of June 14. Some half dozen more trains in each direction on weekdays, and three more on Sundays are now provided; the basis is an even-timed hourly service on weekdays and two-hourly on Sundays. Journey times are cut by some 27 mins. compared with previous steam train schedules.

**Television Train Excursions from Scotland to Blackpool.**—The illuminations at Blackpool will be the destination of passengers by four special Saturday excursions by the television show train from Glasgow and Motherwell on September 21 and 28 and October 5 and 12. There will be a cafeteria car in each train. A team of artistes will provide entertainment from the specially equipped soundproof studio fitted up in one of the brake vans, and short 16-mm. films will be screened, the operator projecting the film on to a screen, where the image is picked up by the television cameras and relayed throughout the train. The artistes will not only be televised on the closed circuit but will also perform in each coach.

**Record Passenger Traffic at Southampton Docks.**—Between midnight and 8 a.m. on the night of Thursday/Friday, September 12—13, 10 ships arrived at Southampton Docks, bringing 5,657 passengers, for whom 12 boat trains were run to London. This was a record for arrivals in one night at the port. Altogether, 17 ships, arriving and departing, were dealt with between 1 p.m. on Thursday and 8 a.m. on Friday, conveying 10,310 passengers for whom 26 boat trains were run between Southampton and London.

**Denigration of State Industries.**—Speaking at the closing session of the National Coal Board summer school at Oxford on September 13, Mr. Joseph Latham, Deputy Chairman of the Board, declared that he believed that in the years to come

## Cold Cathode Lighting at York

*Cold cathode lighting in York Station, N.E. Region* (*see our May* 31 *issue*)

people would look with amazement at the way in which considerable sections of opinion had seemed only too ready to denigrate and harm the great basic industries on which the country depends. "It really is tragic," he maintained, "that those at every level who have been asked to operate these industries for the good of the community should constantly be treated as though they were less worthy of confidence and support from the community than if they were engaged in private business."

**Charles Roberts & Co. Ltd. Results.**—The turnover of Charles Roberts & Co. Ltd. increased in the year ended March 31 last, despite difficulties with steel supplies. Mr. Duncan Bailey, the Chairman, states that competition grows fiercer every week and costs of both materials and wages continue to rise. Group net profits fell to £118,693 from £144,178 for 1955-56, after tax of £254,600 (£222,985). The ordinary dividend is 15 per cent, taking £86,250 (same). A distribution of 2½ per cent (same) not subject to tax, has been paid from realised capital accretions. A centenary distribution of 20 per cent, not subject to tax, was also paid for 1955-56.

**Railway Convalescent Homes.**—The balance sheet of the Railway Convalescent Homes, as at December 31, 1956, shows that total income fell slightly to £164,026 against £167,059 in the previous year. Railway staff collections contributed £153,969 of this amount, and £1,440 was donated by the public. Income from investments rose from £5,480 to £6,973. The cost of maintaining the 10 homes was £126,785 and administration costs were £21,924, leaving a balance of income over expenditure of £15,317. Total assets are shown as £480,902. The President for 1957 is Mr. J. W. Watkins, Member, British Transport Commission.

**Railway Benevolent Institution.**—The report of the Railway Benevolent Institution for the year ended April 30, 1957, shows that 7,593 persons were assisted during the year at a cost of £63,954. This sum does not include the cost of maintenance of children at St. Christopher's Children's Home at Derby. Income, apart from St. Christopher's, rose from £83,781 to £84,574. St. Christopher's received £28,297 against £25,762 in 1955-56, and the deficit fell from £3,494 to £2,346. Total income from all sources was £112,871, and the balance left in hand was £7,467 (£8,321). Legacies received during the year and invested amounted to £1,060.

**Murex Outlook Encouraging.**—The Chairmen of Murex Limited, Sir Arthur Smout, states that the outlook for all major activities of the company is "most encouraging." In the year ended April 30 last there was some reduction in the demand for tungsten products, caused in part by the motorcar trade recession. A sharp fall in the world price of wolfram from 269s. to 160s. a unit involved the company in a considerable loss. Other major activities were satisfactory, and there has been an increase in the demand for molybdenum and vanadium products. Group trading profits fell to £1,037,903 from £1,479,768 in the previous year. Net profit was £351,709 (£579,289). The ordinary dividend is maintained at 20 per cent.

**Pig Iron and Steel Production in August.**—Steel production in August was at the rate of 373,400 tons a week compared with 340,600 tons in August, 1956. For the first eight months of the year production averaged a weekly rate of 412,800 tons and was 6·2 per cent above production in the corresponding period of last year. Pig iron production in August was at the weekly rate of 272,500 tons compared with 235,900 tons in August, 1956. For the first eight months of the year production was 8·4 per cent above that in the corresponding period of last year. The Iron & Steel Board states that the significant improvement in pig iron output is easing the raw material supply position. Forward contracts for imported scrap and pig iron have been reduced.

**British Standard for Oil Fuels.**—The increased use of burner fuels in oil engines has made necessary the preparation of this Standard, B.S.2869:1957, which replaces and brings under one cover B.S.742 Fuel oil for burners, and B.S.209 Fuels for oil engines. The Standard specifies requirements for three categories of fuel: engine, domestic, and industrial and marine fuels. For each class of fuel there is a table specifying properties and the limits for impurities. Methods of test are specified for each property and impurity. It was recognised that oil fuels have many applications which require limits other than those set in this standard but there has been no attempt to incorporate them. Copies of this standard, price 7s. 6d., may be obtained from the British Standards Institution, Sales Branch, 2, Park Street, London, W.1.

## Railway Stock Market

Stock markets have been quiet and uncertain, awaiting the International Monetary Fund meeting in Washington, although it is believed this will confirm that no revaluation of leading currencies is expected in the near future. A factor which tended to reduce business in existing securities was the big rights issues of shares and loan stock totalling £29,000,000 announced by Vickers.

Foreign rails have been slightly more active, but in general movements were small and showed no particular trend. Antofagasta ordinary and preference stocks were firmer at 30½ and 41½ respectively, the good yields tending to attract buyers again, while in other directions, Mexican Central "A" debentures strengthened afresh from 70 to 70½. San Paulo Railway 3s. units were slightly higher in price at 2s. 4½d. On the other hand, United of Havana second income stock eased from 9 to 8½.

Costa Rica ordinary stock changed hands at 21 and Chilean Northern 5 per cent debentures were 40, while Brazil Railway bonds were quoted at 6. Taltal Railway shares following their recent rise, which was not fully held a week ago, have eased further to 13s. 6d.

Reflecting the trend on Wall Street, Canadian Pacifics tended to strengthen later, but were down on balance, being $65⅞ compared with $66¼ a week ago, while White Pass shares at $18¼ compared with $19, Peru Transport "B" shares were $1¼. In other directions, Nyasaland Railways shares and debentures were 10s. and 56½ respectively.

Vickers shares have dropped from 39s. 3d. a week ago to 37s. 7½d. under the influence of the big issue of new shares at 33s. on the basis of one for every five held and new 6 per cent loan stock at £96 to shareholders. Yield on the stock is 6¼ per cent and the minimum life 20 years. Moreover, the interim dividend on the shares is being maintained at 2½ per cent and the directors expect to keep the final dividend at 7½ per cent on the larger share capital that will arise from the issue. Both offers look attractive, and are expected to go well, particularly as most of the City's leading investment groups are shareholders in the company.

Among shares of locomotive builders and engineers, Beyer Peacock 5s. shares changed hands around 9s. 6d. and Charles Roberts 5s. shares were 10s. 1½d. with Westinghouse Brake 37s. 3d. and G.D. Peters shares, which do not often change hands, showing business around 27s. 6d. Elsewhere, Hurst Nelson came back to 31s. 6d. and there was a further decline in North British Locomotive, which at 14s. 3d., compared with 15s. 3d. a week ago. Birmingham Wagon were 18s. 6d. while Gloucester Wagon 10s. shares have been steady at 15s. 3d. and Wagon Repairs 5s. shares strengthened from 12s. 10½d. to 13s. 1½d.

Under the influence of the record financial results and higher dividend, the 10s. shares of the Dowty Group moved up from 34s. to 34s. 6d. In other directions there has been buying of Crompton Parkinson 5s. shares, which strengthened to 16s. 9d. Associated Electrical eased from 62s. to 61s. and General Electric at 46s. 6d. were within 3d. of the price a week ago. English Electric have eased from 61s. a week ago to 60s. B.I. Cables were 47s. 4½d. and Johnson & Phillips 23s. 9d. while in other directions, British Timken eased to 65s. and Pressed Steel 5s. shares were 15s. 3d. compared with 16s. 6d. a week ago. Ruston & Hornsby have come back from 30s. 6d. to 29s. Moreover, also reflecting the prevailing market trend, British Oxygen were 35s. compared with 36s. a week ago and British Aluminium 53s. 9d. compared with 56s. 3d. Tube Investments eased to 65s. 9d. and T.W. Ward from 77s. to 76s. G. & J. Weir at 19s. 3d. were "ex" the scrip issue. Steels were moderately lower with United Steel at 20s. 1½d.

## Forthcoming Meetings

**Open currently and until further notice.—British Transport Commission: Historical Exhibition "Transport Treasures" in Shareholders' Meeting Room, Euston Station, from 10 a.m. to 6 p.m. on weekdays, and 2 to 6 p.m. on Sundays. Admission 6d.**

September 21 (*Sat.*).—Permanent Way Institution, Manchester & Liverpool Section, at the Technical College, Mornington Road, Southport, at 2.30 p.m. Film: "Steel Road."

September 23 (*Mon.*).—Historical Model Railway Society, at the Headquarters of the Stephenson Locomotive Society, 32, Russell Road, London, W.14, at 7 p.m. Talk on "The North London Railway," by Mr. A. P. Hancox.

September 25 (*Wed.*).—Permanent Way Institution, London Section, at the Headquarters of the British Transport Commission, 222, Marylebone Road, London, N.W.1, at 6.30 p.m. Illustrated paper on "Some impressions of urban railways and technical developments in Germany, Russia and Sweden," by Mr. C. E. Dunton.

September 25 (*Wed.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, 1, Birdcage Walk, London, S.W.1, at 5.30 p.m.

Delivery of Presidential Address by Mr. E. S. Cox.

September 25 (*Wed.*).—East Indian Railway Officers' annual dinner, at the Connaught Rooms, Great Queen Street, W.C.2, at 6.30 for 7 p.m.

September 26 (*Thu.*).—East Indian Railway re-union tea party for officers and their families, at the St. Ermins Hotel, Caxton Street, S.W.1, from 3.30 to 6 p.m.

September 28 (*Sat.*) to October 2 (*Wed.*).—Railway Students' Association, annual convention at Aberdeen.

September 30 (*Mon.*).—Railway Correspondence & Travel Society, London Branch, at the Railway Clearing House, Eversholt Street, London, N.W.1. Paper on "The North Eastern Region of British Railways," by Mr. R. A. Savill, Assistant (Mineral) to the Chief Traffic Manager, N.E.R.

October 1 (*Tue*).—Permanent Way Institution, Leeds & Bradford Section, in the British Railways Social & Recreation Club, Ellis Court, Leeds City North Station, at 7 p.m. Paper on "Work study," illustrated by lantern slides, by Mr. R. W. Bailey, Assistant (Productivity and Works Study) to General Manager, L.M.R.

October 1 (*Tue.*) to October 3 (*Thu.*).—Institution of Mechanical Engineers, Conference on lubrication and wear, to be held in London.

October 2 (*Wed.*).—British Railways (Southern Region) Lecture & Debating Society, in the Chapter House, St. Thomas's Street, S.E.1, at 6 p.m. Opening address by Major-General Szlumper. Mr. C. P. Hopkins, President of the Society, and General Manager of the Southern Region, will preside.

October 3 (*Thu.*).—British Railways (Western Region) London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, 5.45 p.m. Paper on "The railways and railwaymen as seen by industry," by Mr. Arthur Chamberlain, Member, Western Area Board of the B.T.C.

October 3 (*Thu.*).—The Model Railway Club, at Caxton Hall, Westminster, S.W.1, at 7.45 p.m. Paper on "Practical model railway electrification," by Mr. F. J. Briggs.

October 4 (*Fri.*).—The Railway Club, at 320, High Holborn, London, W.C.1, at 7 p.m. Paper on "Some arrangements for the international working of passenger traffic on the Continent," by Mr. N. W. Sprinks.

October 5 (*Sat.*).—Permanent Way Institution, London Section. Visit to British Railways Research Laboratories at Derby.

# OFFICIAL NOTICES

MECHANICAL ENGINEERING DRAUGHTSMEN. Applications are invited from draughtsmen with previous experience of mechanical engineering Knowledge of electric traction would be an advantage. The Company is situated in a rural district within easy reach of a large town. The working conditions are excellent with full canteen and recreational facilities and a good pension scheme. Five-day week.—Applications should be made in writing giving age, education, experience and qualifications, to Box Y940, c/o Streets, 110 Old Broad Street, E.C.2.

SALES ENGINEER. Large Midlands Company manufacturing accessory for rapidly expanding market prepared to engage mechanical or electrical engineer with experience on a railway alternatively with rolling stock or locomotive builder. Considerable travelling within United Kingdom by road and rail involved after period of workshop training depending on past experience. Engineer in age group 27-37 preferred with Associate Membership of Institution of Locomotive Engineers. Post includes generous pension scheme.—Box 427, *The Railway Gazette*, 33 Tothill Street, London, S.W.1.

THE NIGERIAN RAILWAY CORPORATION invites applications for the following post: RESEARCH OFFICER. *Salary:* £2,250 per annum on pensionable terms or on contract with 20 per cent. gratuity p.a. of total pay. *Qualifications:* Candidates must be Chartered Civil or Mechanical Engineers or possess an engineering degree with 10 years' experience in metallurgy, photomicrography, soil mechanics, combustion, fuel oil and water testing, chemical analysis, technical and practical investigation into such problems as flange and railwear, faulty design, elimination of bad riding in rolling stock, etc. *Tours:* 15 months' tours followed by 15 weeks' leave in U.K. on full pay. *Allowances:* In addition there are attractive allowances. Send postcard before 15th October, 1957, mentioning the post and this paper for further particulars and application form to: The London Representative, Nigerian Railway Corporation, 11 Manchester Square, London, W.1.

LONDON TRANSPORT invites applications for post of EQUIPMENT ENGINEER to control section of Development Division of department of Chief Mechanical Engineer (Railways), Acton, dealing with design and development of all items of equipment used on Executive's rolling stock traction motors and control gear, brakes, air-operated doors and other auxiliary equipment. Qualifications: a detailed knowledge of equipment involved, with preferably some knowledge of traction motor and motor generator design and characteristics; a general knowledge of the construction of railway rolling stock advantageous; membership of one of the senior engineering institutions; an engineering degree in electrical subjects. Salary range, £1,210 to £1,420. Free travel. Medical examination. Contributory superannuation scheme after probation.—Please apply within seven days to Recruitment and Training Officer (F/EV 657), London Transport, 55, Broadway, London, S.W.1.

THE NIGERIAN RAILWAY CORPORATION invites applications for the following post: SUPERINTENDENT OF TRAINING. *Salary:* £1,575 by £50 to £1,775 plus £300 overseas pay p.a. on pensionable terms or on contract with 20 per cent. gratuity p.a. of total pay. *Qualifications:* Candidates must have served as Pupil Civil Engineers, preferably with a Railway or Public Authority, have passed Parts I and II of the examination of the Institution of Civil Engineers or equivalent and have 5 years' experience in technical instruction of engineering apprentices or equivalent experience of teaching in a Technical Institute. The successful candidate will be required to organise and supervise the training of approximately 200 Civil Engineering Department Railway Apprentices. *Tours:* 15 months' tours followed by 15 weeks' leave in U.K. on full pay. *Allowances:* In addition there are attractive allowances. Send postcard before 5th October, 1957, mentioning the post and this paper, for further particulars and application form to:—The London Representative, Nigerian Railway Corporation, 11 Manchester Square, London, W.1.

MINISTRY OF EDUCATION.—ASSISTANT KEEPER—SCIENCE MUSEUM—DEPARTMENT OF TRANSPORT AND MINING. The Civil Service Commissioners invite applications for one pensionable post of ASSISTANT KEEPER in the Department of Transport and Mining to take charge of the Rail Transport Collection. The appointment may be First or Second Class according to age and qualifications. Age at least 21 and under 26 on 1st September, 1957, for Second Class appointment, with extension for Forces service, established Civil Service, and for exceptionally well qualified candidates. Prospects of promotion to First Class post by age 30. For direct appointment to First Class post candidates must normally be at least 30 on 1st September, 1957, but candidates aged 28-30 would be considered exceptionally. Candidates must have 1st or 2nd Class Honours degree in Mechanical Engineering, or an equivalent qualification. Post-graduate experience and knowledge of one or more foreign languages are advantages. Salary scale (men), £1,175-£1,850 or £635-£900 according to grade. Women's scales above £635 somewhat lower but being improved to reach equality with men's by 1961. For a Class II appointment starting pay may be increased for approved post-graduate experience and for compulsory Forces service. Prospects of promotion.—Further particulars and application forms from Secretary, Civil Service Commission, Scientific Branch, 30, Old Burlington Street, London, W.1, quoting S4761/57. Completed application forms should be returned by 14th October, 1957.

THE NIGERIAN RAILWAY CORPORATION invites applications for the following post: FOREMAN ELECTRICIAN (REFRIGERATION). Salay: £700 × £50—£1,200 p.a. plus £300 overseas pay p.a. on pensionable terms or on contract with 20 per cent. gratuity p.a. of total pay. Qualifications: Candidates must have served a 5 years' apprenticeship with a firm of refrigeration or air conditioning plant manufacturers and have supervisory experience on maintenance of all types of refrigeration equipment. A knowledge of refrigeration as applied to railway wagons is desirable. The successful candidate will be expected to institute a proper maintenance and overhaul schedule for all the refrigeration plant in use on the Railway and to assist in the training of apprentices. Tours: 15 months' tours following by 15 weeks' leave in U.K. on full pay. Allowances: In addition there are attractive allowances.—Send postcard, mentioning the post and this paper for further particulars and application form to: The London Representative, Nigerian Railway Corporation, 11 Manchester Square, London, W.1.

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Consequent upon the dismantling of the

## LIVERPOOL OVERHEAD RAILWAY

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will offer for SALE BY AUCTION, piecemeal, on

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**HEAVY DUTY MACHINE TOOLS**
**for Railway Carriage Maintenance**

including "S.M.T." Loudon 3 ft. 6 in. × 9 ft. Motorised Double RAILWAY WHEEL LATHE, "Buckton" 14 ft. × 4 ft. × 4 ft. Double Box PLANING MACHINE, "Granor" 12½ in. × 12 ft. High Speed S.S. and S.C. Lathe, Five various Lathes from 4½ in. centres to 55 in. swing, "Town" Model A.E.1 4 ft. 6 in. and 3 ft. 6 in. Radial Drilling Machines, "Herbert" type V and "Corona" Single-spindle Pillar Drills, "N.I." 14 in. and "Selecta" 8 in. Double-ended Grinders, Punching and Cropping, Hacksawing and 24 in. Shaping Machines, 120-ton Horizontal Hydraulic Tyre Press, Tool Hardening Furnace, 60-lb. Forging Hammer, Generators, Motors, Electric Welding and Air Compressing Plants, Woodworking Machines including "Midsaw" 9 in. Universal Woodworker, Bandsaw and Circular Saw.

"MORRIS" 10-ton 3-motor 205 ft. × 53 ft. OVERHEAD TRAVELLING CRANE.

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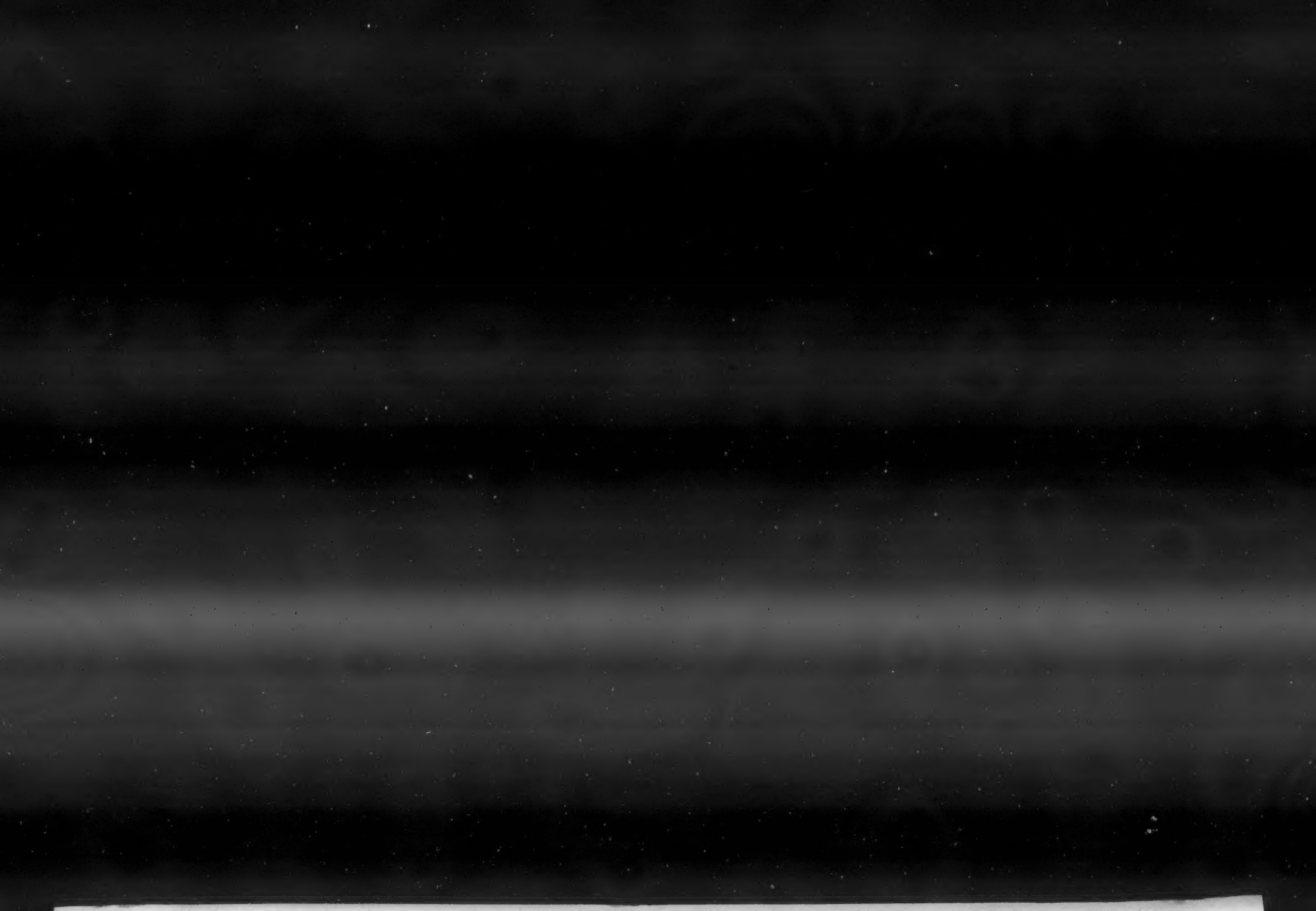
1946 "AUSTIN" 2-ton GOODS LORRY "RUSTON-HORNSBY" DIESEL LOCOMOTIVE.

The Lots may be inspected from 10 a.m. to 4 p.m. on 1st/4th and 7th/9th October, 1957, or by appointment with the Auctioneers.

Catalogues may be obtained from G. F. SINGLETON & CO., Industrial Auctioneers and Estate Agents, 9 Richmond Terrace, BLACKBURN (Tel. 7722/3) and 53 King Street, MANCHESTER, 2. (Tel.: DEAnsgate 7954/7.)

FOR SALE OR HIRE, Hudswell Clarke 0-6-0 standard gauge STEAM LOCOMOTIVE, in good condition.—Apply Eagre Construction Co. Ltd., Scunthorpe, Lincolnshire. 'Phone 4513 (7 lines).

THE DIRECTOR GENERAL OF INDIA STORE DEPARTMENT, Government Building, Bromyard Avenue, Acton, London, W.3, invites tenders for the supply of: AXLE-BOX HOUSING CAST STEEL FOR B.G. COACHING STOCK 2,250 Nos. Forms of tender may be obtained from the above address on or after the 20th September, 1957, at a fee of 10s., which is not returnable. If payment is made by cheque, it should please be made payable to "High Commissioner for India." Tenders are to be delivered by 2 p.m. on Monday, 4th November, 1957. Please quote reference No. 54/57 DB/Rly.2.